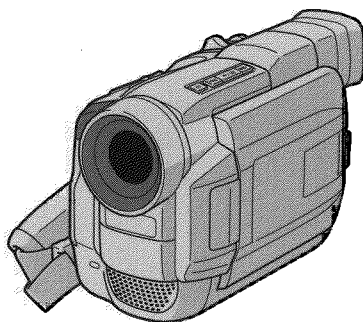


JVC

SERVICE MANUAL

DIGITAL VIDEO CAMERA

GR-DVL100U/300U/305U /307U/500U/507U



Mini DV NTSC

SPECIFICATIONS *(The specifications shown pertain specifically to the model GR-DVL500/DVL300)*

Camcorder	
For General	
Power supply	: DC 6.3 V --- (Using AC Power Adapter/Charger) DC 7.2 V --- (Using battery pack)
Power consumption	
LCD monitor off, viewfinder on	: Approx. 4.3 W
LCD monitor on, viewfinder off	: Approx. 5.3 W
Video light	: Approx. 3.5 W
Dimensions (W x H x D)	: 80 mm x 96 mm x 159 mm (3-3/16" x 3-13/16" x 6-5/16") (with the LCD monitor closed and the viewfinder pushed down)
Weight	: Approx. 570 g (1.3 lbs)
Operating temperature	: 0°C to 40°C (32°F to 104°F)
Operating humidity	: 35% to 80%
Storage temperature	: -20°C to 50°C (-4°F to 122°F)
Pickup	: 1/4" CCD
Lens	: F 1.8, f = 3.6 mm to 36 mm, 10:1 power zoom lens
Filter diameter	: ϕ 37 mm
LCD monitor	
GR-DVL500	: 3.0" diagonally measured, LCD panel/TFT active matrix system
GR-DVL300	: 2.5" diagonally measured, LCD panel/TFT active matrix system
Viewfinder	
GR-DVL500	: Electronic viewfinder with 0.44" color LCD
GR-DVL300	: Electronic viewfinder with 0.24" black/white LCD
Speaker	: Monaural
For Digital Video Camera	
Format	: DV format (SD mode)
Signal format	: NTSC standard
Recording/Playback format	: Video: Digital component recording Audio: PCM digital recording, 32 kHz 4-channel (12-bit), 48 kHz 2-channel (16-bit)

Cassette	: Mini DV cassette
Tape speed	: SP: 18.8 mm/s LP: 12.5 mm/s
Maximum recording time (using 80 min. cassette)	: SP: 80 min. LP: 120 min.
For Connectors	
S	: Y : 1 V (p-p), 75 Ω , analog output C : 0.29 V (p-p), 75 Ω , analog output
AV	
Video output	: 1 V (p-p), 75 Ω , analog
Audio output	: 300 mV (rms), 1 k Ω , analog, stereo
DV	
Input/output	: 4-pin, IEEE 1394 compliant
PC (DIGITAL PHOTO)	
Digital still output	: ϕ 2.5 mm, 3-pole
JLIP/EDIT	: ϕ 3.5 mm, 4-pole

AC Power Adapter/Charger AA-V40U	
Power requirement	
U.S.A. and Canada	: AC 120 V $\sim$, 60 Hz
Other countries	: AC 110 V to 240 V $\sim$, 50 Hz/60 Hz
Power consumption	: 23 W
Output	
Charge	: DC 7.2 V --- , 1.2 A
VTR	: DC 6.3 V --- , 1.8 A
Dimensions (W x H x D)	: 68 mm x 38 mm x 110 mm (2-11/16" x 1-1/2" x 4-3/8")
Weight	: Approx. 250 g (0.56 lbs)

Specifications shown are for SP mode unless otherwise indicated. E & O.E. Design and specifications subject to change without notice.

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The following table lists the differing points between Models GR-DVL100U, GR-DVL300U, GR-DVL305U, GR-DVL307U, GR-DVL500U and GR-DVL507U in this series.

	GR-DVL100U	GR-DVL300U	GR-DVL305U	GR-DVL307U	GR-DVL500U	GR-DVL507U
VIEW FINDER	B/W	B/W	COLOR	B/W	COLOR	B/W
LCD MONITOR	2.5"	2.5"	2.5"	3"	3"	3.5"
SIDE LED INDICATOR	NOT USED	NOT USED	NOT USED	USED	NOT USED	USED
CD ROM	NOT USED	USED	NOT USED	NOT USED	USED	USED
PC CONNECTION CABLE	NOT USED	USED	NOT USED	NOT USED	USED	USED

Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

●Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the $\triangle$ symbol and shaded (■) parts are critical for safety.

Replace only with specified part numbers.

Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.
Caution for continued protection against fire hazard.
Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:

- 1) Wires covered with PVC tubing
- 2) Double insulated wires
- 3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:

- 1) Insulation Tape
- 2) PVC tubing
- 3) Spacers
- 4) Insulation sheets for transistors
- 5) Barrier

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

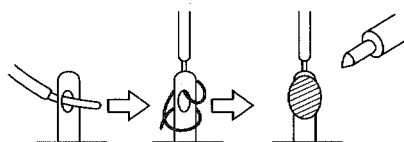


Fig.1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

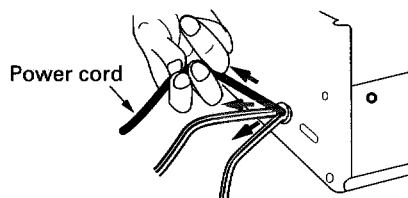


Fig.2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)

In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector

In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

1) **Connector part number :** E03830-001

2) **Required tool :** Connector crimping tool of the proper type which will not damage insulated parts.

3) **Replacement procedure**

(1) Remove the old connector by cutting the wires at a point close to the connector.

Important : Do not reuse a connector (discard it).



Fig.3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

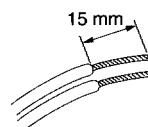


Fig.4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

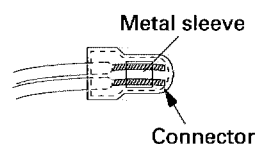


Fig.5

(4) As shown in Fig.6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

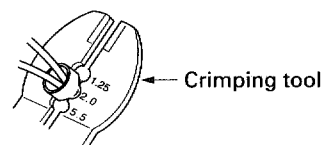


Fig.6

(5) Check the four points noted in Fig.7.

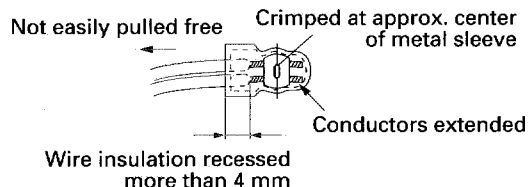


Fig.7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Insulation resistance test

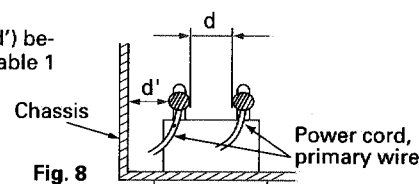
Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

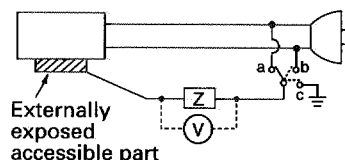


4. Leakage current test

Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method : (Power ON)

Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

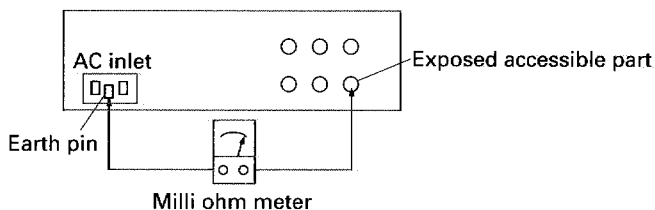


5. Grounding (Class I model only)

Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).

Measuring Method:

Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.



Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	$Z \leq 0.1 \text{ ohm}$
Europe & Australia	$Z \leq 0.5 \text{ ohm}$

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	$R \geq 1 \text{ M}\Omega/500 \text{ V DC}$	AC 1 kV 1 minute	$d, d' \geq 3 \text{ mm}$
100 to 240 V			AC 1.5 kV 1 minute	$d, d' \geq 4 \text{ mm}$
110 to 130 V	USA & Canada	$1 \text{ M}\Omega \leq R \leq 12 \text{ M}\Omega/500 \text{ V DC}$	AC 1 kV 1 minute	$d, d' \geq 3.2 \text{ mm}$
110 to 130 V	Europe & Australia	$R \geq 10 \text{ M}\Omega/500 \text{ V DC}$	AC 3 kV 1 minute (Class 2)	$d \geq 4 \text{ mm}$
200 to 240 V			AC 1.5 kV 1 minute (Class 1)	$d' \geq 8 \text{ mm (Power cord)}$ $d' \geq 6 \text{ mm (Primary wire)}$

Table 1 Specifications for each region

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	$1 \text{ k}\Omega$	$i \leq 1 \text{ mA rms}$	Exposed accessible parts
110 to 130 V	USA & Canada	$0.15 \mu\text{F}$ in series with $1.5 \text{ k}\Omega$	$i \leq 0.5 \text{ mA rms}$	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	$2 \text{ k}\Omega$	$i \leq 0.7 \text{ mA peak}$ $i \leq 2 \text{ mA dc}$	Antenna earth terminals
		$50 \text{ k}\Omega$	$i \leq 0.7 \text{ mA peak}$ $i \leq 2 \text{ mA dc}$	Other terminals

Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

INSTRUCTIONS

2 EN

EN 3

Dear Customer,

Thank you for purchasing this digital video camera. Before use, please read the safety information and precautions contained in the following pages to ensure safe use of this product.

Using This Instruction Manual

- All major sections and subsections are listed in the Table Of Contents on the cover page.
 - Notes appear after most subsections. Be sure to read these as well.
 - Basic and advanced features/operation are separated for easier reference.
- It is recommended that you . . .**
- refer to the Index (☞ pgs. 59 – 63) and familiarize yourself with button locations, etc. before use.
 - read thoroughly the Safety Precautions and Safety Instructions that follow. They contain extremely important information regarding the safe use of this product.

You are recommended to carefully read the cautions on pages 64 through 66 before use.

SAFETY PRECAUTIONS

CAUTION

RISK OF ELECTRIC SHOCK

DO NOT OPEN

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

The AA-V40U AC Power Adapter/Charger should be used with:

AC 120 V_~, 60 Hz in the USA and Canada,
AC 110V – 240 V_~, 50 Hz/60 Hz in other countries.

CAUTION (applies to the AA-V40U)
TO PREVENT ELECTRIC SHOCK MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

ATTENTION (s'applique à l'AA-V40U)
POUR ÉVITER LES CHOCs ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

NOTES:

- The rating plate (serial number plate) and safety caution are on the bottom and/or the back of the main unit.
- The rating plate (serial number plate) of the AC Power Adapter/Charger is on its bottom.

This camcorder is designed to be used with NTSC-type color television signals. It cannot be used for playback with a television of a different standard. However, live recording and LCD monitor/viewfinder playback are possible anywhere. Use the BN-V408U/V416U/V428U battery packs and, to recharge them, the provided multi-voltage AC Power Adapter/Charger. (An appropriate conversion adapter may be necessary to accommodate different designs of AC outlets in different countries.)

When the equipment is installed in a cabinet or on a shelf, make sure that it has sufficient space on all sides to allow for ventilation (10 cm (3-15/16") or more on both sides, on top and at the rear).

Do not block the ventilation holes.

(If the ventilation holes are blocked by a newspaper, or cloth etc. the heat may not be able to get out.)

No naked flame sources, such as lighted candles, should be placed on the apparatus.

When discarding batteries, environmental problems must be considered and the local rules or laws governing the disposal of these batteries must be followed strictly.

The apparatus shall not be exposed to dripping or splashing.

Do not use this equipment in a bathroom or places with water.

Also do not place any containers filled with water or liquids (such as cosmetics or medicines, flower vases, potted plants, cups etc.) on top of this unit. (If water or liquid is allowed to enter this equipment, fire or electric shock may be caused.)

IMPORTANT PRODUCT SAFETY INSTRUCTIONS

Electrical energy can perform many useful functions. But improper use can result in potential electrical shock or fire hazards. This product has been engineered and manufactured to assure your personal safety. In order not to defeat the built-in safeguards, observe the following basic rules for its installation, use and servicing.

ATTENTION:

Follow and obey all warnings and instructions marked on your product and its operating instructions. For your safety, please read all the safety and operating instructions before you operate this product and keep this manual for future reference.

INSTALLATION

1. Grounding or Polarization

(A) Your product may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

(B) Your product may be equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete grounding-type plug. Do not defeat the safety purpose of the grounding-type plug.

2. Power Sources

Operate your product only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. If your product is intended to operate from battery power, or other sources, refer to the operating instructions.

3. Overloading

Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.

4. Power Cord Protection

Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

5. Ventilation

Slots and openings in the cabinet are provided for ventilation. To ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered.

- Do not block the openings by placing the product on a bed, sofa, rug or other similar surface.
- Do not place the product in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

6. Wall or Ceiling Mounting

The product should be mounted to a wall or ceiling only as recommended by the manufacturer.

ANTENNA INSTALLATION INSTRUCTIONS

1. Outdoor Antenna Grounding

If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

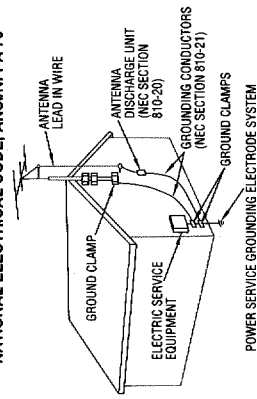
2. Lightning

For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.

3. Power Lines

An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE, ANSI/NFPA 70



POWER SERVICE GROUNDING ELECTRODE SYSTEM
(NEC ART 250, PART H)
NEC – NATIONAL ELECTRICAL CODE

1. Accessories

To avoid personal injury:

- Do not place this product on an unstable cart, stand, tripod, bracket or table. It may fall, causing serious injury to a child or adult, and serious damage to the product.
- Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer or sold with the product.
- Use a mounting accessory recommended by the manufacturer and follow the manufacturer's instructions for any mounting of the product.
- Do not try to roll a cart with small casters across thresholds or deep-pile carpets.

2. Product and Cart Combination

A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.

PORTABLE CART WARNING
(Symbol provided by RETAC)



3. Water and Moisture

Do not use this product near water—for example, near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement, or near a swimming pool and the like.

4. Object and Liquid Entry

Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

5. Attachments

Do not use attachments not recommended by the manufacturer of this product as they may cause hazards.

6. Cleaning

Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

7. Heat

The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

SERVICING

1. Servicing

If your product is not operating correctly or exhibits a marked change in performance and you are unable to restore normal operation by following the detailed procedure in its operating instructions, do not attempt to service it yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

2. Damage Requiring Service

Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- When the power supply cord or plug is damaged.
- If liquid has been spilled, or objects have fallen into the product.
- If the product has been exposed to rain or water.
- If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
- If the product has been dropped or damaged in any way.
- When the product exhibits a distinct change in performance—this indicates a need for service.

3. Replacement Parts

When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

4. Safety Check

Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in safe operating condition.

SAFETY PRECAUTIONS

Do not point the lens or the viewfinder directly into the sun. This can cause eye injuries, as well as lead to the malfunctioning of internal circuitry. There is also a risk of fire or electric shock.

CAUTION!

The following notes concern possible physical damage to the camcorder and to the user.

When carrying, be sure to always securely attach and use the provided shoulder strap. Carrying or holding the camcorder by the viewfinder and/or the LCD monitor can result in dropping the unit, or in a malfunction.

Take care not to get your finger caught in the cassette holder cover. Do not let children operate the camcorder, as they are particularly susceptible to this type of injury.

Do not use a tripod on unsteady or unlevel surfaces. It could tip over, causing serious damage to the camcorder.

CAUTION!

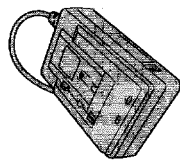
Connecting cables (Audio/Video, S-Video, Editing, DC, etc.) to the camcorder and leaving the unit on top of the TV is not recommended, as tripping on the cables will cause the camcorder to fall, resulting in damage.

Mini DV NTSC

- This camcorder is designed exclusively for the digital video cassette. Only cassettes marked "Mini DV" can be used with this unit.

Before recording an important scene . . .

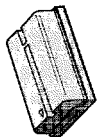
- make sure you only use cassettes with the Mini DV mark "Mini DV".
- remember that this camcorder is not compatible with other digital video formats.
- remember that this camcorder is intended for private consumer use only. Any commercial use without proper permission is prohibited. (Even if you record an event such as a show, performance or exhibition for personal enjoyment, it is strongly recommended that you obtain permission beforehand.)



• AC Power Adapter/Charger
AA-V40U



• Remote Control Unit
RM-V716U



• Battery Pack BN-V408U



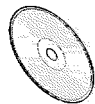
• AAA (R03) Battery x 2
(for remote control unit)



• Shoulder Strap



• Lens Cap



• CD-ROM
The CD ROM contains the
following 5 software programs:

- J-LIP Video Capture
- J-LIP Video Producer

Presto!

- Mr. Photo
- PhotoAlbum
- ImageFolio



• Editing Cable



• Audio/Video Cable
(ø3.5 mini-plug to
RCA plug)

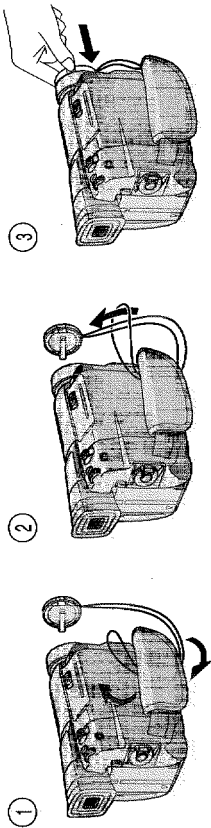


• DC Cord



• PC Connection Cable

How To Attach The Lens Cap



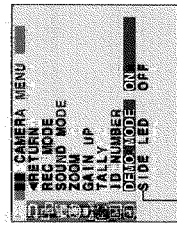
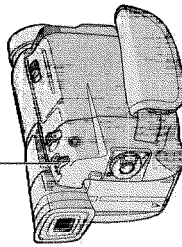
To protect the lens, attach the provided lens cap to the camcorder as shown in the illustration.

AUTOMATIC DEMONSTRATION

Automatic Demonstration takes place when "DEMO. MODE" is set to "ON" (factory-preset).

- Available when the Power Switch is set to "A" or "V" and no cassette is in the camcorder.
- Performing any operation during the demonstration stops the demonstration temporarily. If no operation is performed for more than 1 minute after that, the demonstration will resume.
- "DEMO. MODE" remains "ON" even if the camcorder power is turned off.
- To cancel Automatic Demonstration, set the Power Switch to "V", then press the MENU/BRIGHT wheel while the demo is in progress. This takes you directly to the demo mode's Setting Menu (so you will not have to go through the Menu Screen). Rotate the MENU/BRIGHT wheel to select "OFF" and press it. The normal screen appears.

MENU/BRIGHT Wheel

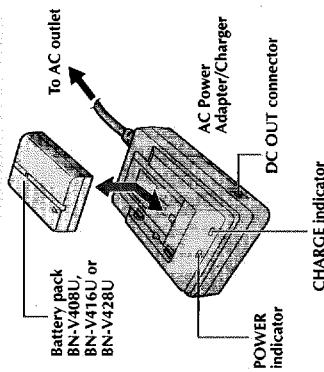


GR-DVL500 only

Power

This camcorder's 2-way power supply system lets you choose the most appropriate source of power. Do not use provided power supply units with other equipment.

CHARGING THE BATTERY PACK

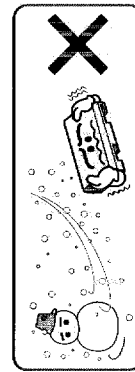


- 1 Make sure you unplug the camcorder's DC cord from the AC Power Adapter/Charger. Plug the AC Adapter/Charger's power cord into an AC outlet. The POWER indicator lights.
- 2 Attach the battery pack with the $\oplus$ $\ominus$ mark aligned with the corresponding marks on the AC Power Adapter/Charger. The CHARGE indicator begins blinking to indicate charging has started.
- 3 When the CHARGE indicator stops blinking but stays lit, charging is finished. Slide the battery and lift off. Remember to unplug the AC Adapter/Charger's power cord from the AC outlet.

Battery pack	Fully charging time
BN-V408U	approx. 1 hr. 30 min.
BN-V416U (optional)	approx. 2 hrs.
BN-V428U (optional)	approx. 3 hrs. 20 min.

NOTES:

- If the protective cap is attached to the battery pack, remove it first.
- Perform charging where the temperature is between 10°C and 35°C (50°F and 95°F). 20°C to 25°C (68°F to 77°F) is the ideal temperature range for charging. If the environment is too cold, charging may be incomplete.
- Charging times noted above are for a fully discharged battery pack.
- Charging time varies according to the ambient temperature and the status of the battery pack.
- To avoid interference with reception, do not use the AC Power Adapter/Charger near a radio.
- If you connect the camcorder's DC cord to the adapter during battery charging, power is supplied to the camcorder and charging stops.
- Since the AC Power Adapter/Charger processes electricity internally, it becomes warm during use. Be sure to use it only in well-ventilated areas.
- When charging the battery pack for the first time or after a long storage period, the CHARGE indicator may not light. In this case, remove the battery pack from the AC Power Adapter/Charger, then try charging again.
- If the battery operation time remains extremely short even after having been fully charged, the battery is worn out and needs to be replaced. Please purchase a new one.



Lithium-ion is vulnerable in colder temperatures.



About Batteries

DANGER: Do not attempt to take the batteries apart, or expose them to flame or excessive heat, as it may cause a fire or explosion.

WARNING! Do not allow the battery or its terminals to come in contact with metals, as this can result in a short circuit and possibly start a fire.

The Benefits Of Lithium-Ion Batteries

Lithium-ion battery packs are small but have a large power capacity. However, when one is exposed to cold temperatures (below 10°C/50°F), its usage time becomes shorter and it may cease to function. If this happens, place the battery pack in your pocket or other warm, protected place for a short time, then re-attach it to the camcorder. As long as the battery pack itself is not cold, it should not affect performance. (If you're using a heating pad, make sure the battery pack does not come in direct contact with it.)

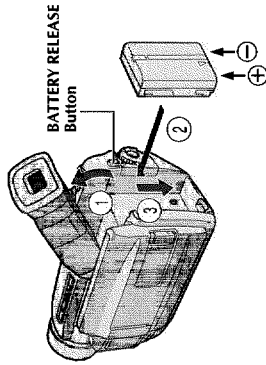
USING THE BATTERY PACK

- 1 Tilt the viewfinder upward ①.
- 2 With the arrow on the battery pack pointing downward, push the battery pack slightly against the battery pack mount ②, then slide down the battery pack to attach it ③.

- If the battery pack is attached with its $\oplus$ $\ominus$ mark set in the wrong direction, a malfunction may occur.

To Detach The Battery Pack...

... tilt the viewfinder upward ① and slide the battery pack up slightly while pressing **BATTERY RELEASE** to detach it.



ATTENTION:

Before detaching the power source, make sure that the camcorder's power is turned off. Failure to do so can result in a camcorder malfunction.

INFORMATION:

BN-V856KIT is a set composed of the VU-V856U battery pack and AA-V80U AC Power Adapter/Charger. Read the VU-V856KIT's instruction manuals before using. It is impossible to charge the BN-V856U battery pack using the provided AC Power Adapter/Charger. Use the optional AA-V80U AC Power Adapter/Charger.

Approximate recording time

Battery pack	LCD monitor on/ Viewfinder off	LCD monitor off/ Viewfinder on
BN-V408U	1 hr. (35 min.)	1 hr. 15 min. (40 min.)
BN-V416U (optional)	2 hrs. (1 hr. 10 min.)	2 hrs. 30 min. (2 hr. 20 min.)
BN-V428U (optional)	3 hrs. 30 min. (2 hrs.)	4 hrs. 20 min. (2 hrs. 20 min.)
BN-V856U (optional)	7 hrs. (4 hrs.)	8 hrs. 40 min. (4 hrs. 40 min.)

() : when the video light is on.

NOTES:

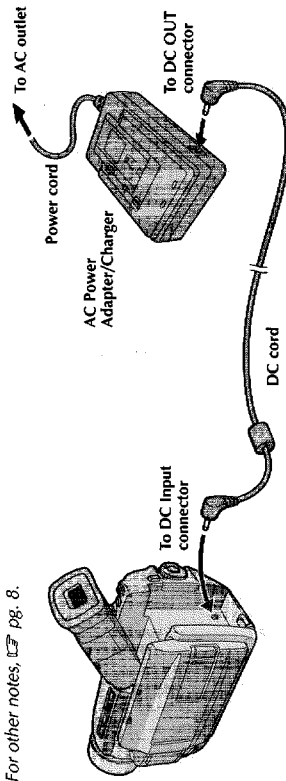
- Recording time is reduced significantly under the following conditions:
 - Zoom or Record-Standby mode is engaged repeatedly.
 - The LCD monitor is used repeatedly.
- Before extended use, it is recommended that you prepare enough battery packs to cover 3 times the planned shooting time.

USING AC POWER

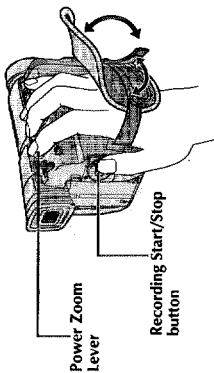
Use the AC Power Adapter/Charger (connect as shown in the illustration).

NOTES:

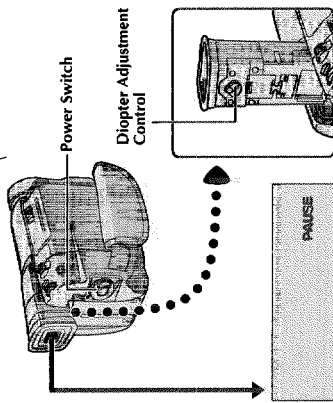
- The provided AC Power Adapter/Charger features automatic voltage selection in the AC range from 110 V to 240 V.
- For other notes, see pg. 8.



Grip Adjustment

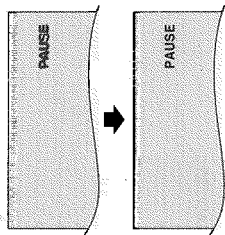


- 1 Separate the Velcro strip.
- 2 Pass your right hand through the loop and grasp the grip.
- 3 Adjust so that your thumb and fingers can easily operate the Recording Start/Stop Button and Power Zoom Lever. Refasten the Velcro strip.



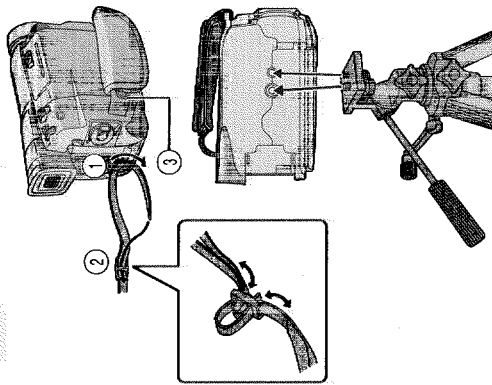
Viewfinder Adjustment

- 1 Set the Power Switch to "A" or "V" while pressing down the Lock Button located on the switch.
- 2 Turn the Diopter Adjustment Control until the indications in the viewfinder are clearly focused.



Shoulder Strap Attachment

- 1 Make sure the battery pack or DC cord is removed. Following the illustration, thread the strap through the eyelet ①, then fold it back and thread it through the buckle ②. Repeat the procedure to attach the other end of the strap to the other eyelet ③, making sure the strap is not twisted.



Tripod Mounting

- 1 Align the screw and camera direction stud on the tripod with the camera's mounting socket and stud hole. Then tighten the screw.
• Some tripods are not equipped with studs.

CAUTION:

When using a tripod, be sure to open and extend its legs fully to stabilize the camcorder. To prevent damage to the unit caused by falling over, do not use a small-sized tripod.

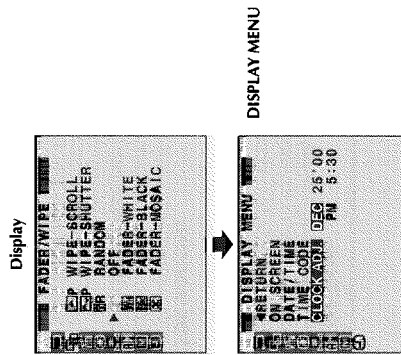
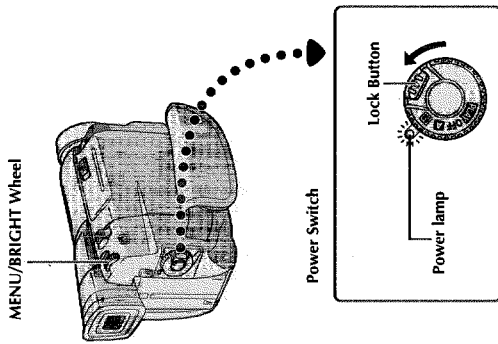
Date/Time Settings

The date/time is recorded onto the tape at all times, but its display can be turned on or off during playback (see pg. 32).

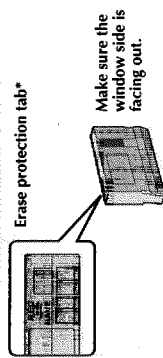
- 1 Set the Power Switch to "A" while pressing down the Lock Button located on the switch. The power lamp lights and the camcorder is turned on.
- 2 Press the MENU/BRIGHT wheel. The Menu Screen appears.
- 3 Rotate the MENU/BRIGHT wheel to select "A". Press it and "DISPLAY MENU" appears.
- 4 Rotate the MENU/BRIGHT wheel to select "CLOCK ADJ.". Press it and "month" is highlighted. Rotate the MENU/BRIGHT wheel to input the month. Press it. Repeat to input the day, year, hour and minute. Rotate the MENU/BRIGHT wheel to select "RETURN", and press it twice. The Menu Screen closes.

NOTE:

Even if you select "CLOCK ADJ.", if the parameter is not highlighted the camcorder's internal clock continues to operate. Once you move the highlight bar to the first date/time parameter (month), the clock stops. When you finish setting the minute (month), the clock stops. When you finish the date and time begin operation from the date and time you just set.

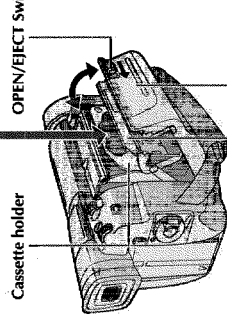


Erase protection tab*



Make sure the window side is facing out.

OPEN/EJECT switch



Cassette holder cover

PUSH HERE

Loading/Unloading A Cassette

The camcorder needs to be powered up to load or eject a cassette.

- 1 Slide **OPEN/EJECT** in the direction of the arrow then pull the cassette holder cover open until it locks. The cassette holder opens automatically.
 - Do not touch internal components.
- 2 Insert or remove a tape and press "PUSH HERE" to close the cassette holder.
 - Once the cassette holder is closed, it recedes automatically. Wait until it recedes completely before closing the cassette holder cover.
 - When the battery's charge is low, you may not be able to close the cassette holder cover. Do not apply force. Replace the battery with a fully charged one before continuing.
- 3 Close the cassette holder cover firmly until it locks into place.

Approximate recording time

Tape	Recording mode	
	SP	LP
30 min.	30 min.	45 min.
60 min.	60 min.	90 min.
80 min.	80 min.	120 min.

* **To Protect Valuable Recordings**
 slide the erase protection tab on the back of the tape in the direction of "SAVE". This prevents the tape from being recorded over. To record on this tape, slide the tab back to "REC" before loading it.

NOTES:

- It takes a few seconds for the cassette holder to open. Do not apply force.
- If you wait a few seconds and the cassette holder does not open, close the cassette holder cover and try again. If the cassette holder still does not open, turn the camcorder off then on again.
- If the tape does not load properly, open the cassette holder cover fully and remove the cassette. A few minutes later, insert it again.
- When the camcorder is suddenly moved from a cold place to a warm environment, wait a short time before opening the cassette holder cover.
- Closing the cassette holder cover before the cassette holder comes out may cause damage to the camcorder.
- Even when the camcorder is switched off, a cassette can be loaded or unloaded. After the cassette holder is closed with the camcorder switched off, however, it may not recede. It is recommended to turn the power on before loading or unloading.
- When resuming recording, once you open the cassette holder cover a blank portion will be recorded on the tape or a previously recorded scene will be erased (recorded over) regardless of whether the cassette holder came out or not. See page 19 for information about recording from the middle of a tape.

Recording Mode Setting

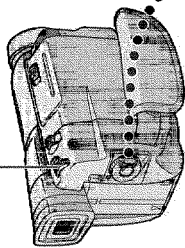
Set the tape recording mode depending on your preference.

- 1 Set the Power Switch to "ON" while pressing down the Lock Button located on the switch. The power lamp lights and the camcorder is turned on.
- 2 Press the **MENU/BRIGHT** wheel. The Menu Screen appears.
- 3 Rotate the **MENU/BRIGHT** wheel to select "CAMERA MENU" and press it. "CAMERA MENU" appears.
- 4 Rotate the **MENU/BRIGHT** wheel to select "REC MODE" and press it. The Sub Menu appears. Select "SP" or "LP" by rotating the **MENU/BRIGHT** wheel and press it. Rotate the **MENU/BRIGHT** wheel to select "◀RETURN", and press it twice. The Menu Screen closes.
 - Audio Dubbing (pg. 50) and Insert Editing (pg. 51) are impossible on a tape recorded in the LP mode.
 - "LP" (Long Play) is more economical, providing 1.5 times the recording time.

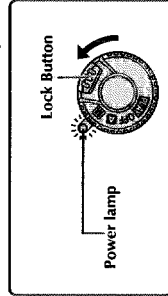
NOTES:

- If the recording mode is switched during recording, the playback picture will be blurred at the switching point.
- It is recommended that tapes recorded in the LP mode on this camcorder be played back on this camcorder.
- During playback of a tape recorded on another camcorder, blocks of noise may appear or there may be momentary pauses in the sound.

MENU/BRIGHT Wheel



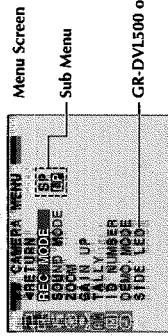
Power Switch



Lock Button

Power Lamp

Display

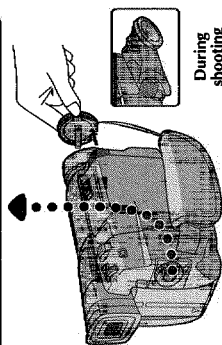
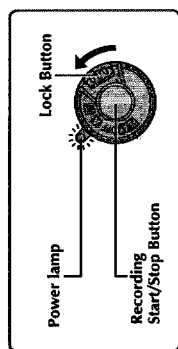


Menu Screen

Sub Menu

CR-DVL500 only

Power Switch



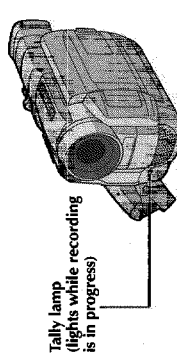
During shooting



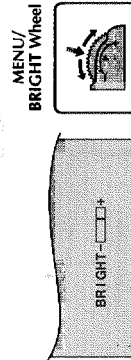
Display

--- min → 90 min → 85 min → 3 min (Now calculating)

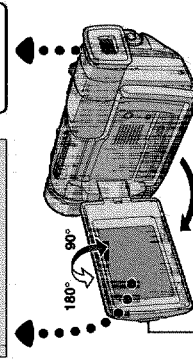
0 min ← 1 min ← 2 min (Blinking)



Tally lamp (lights while recording is in progress)



MENU/BRIGHT Wheel



PUSH OPEN Button

NOTE:

You should already have performed the procedures listed below. If not, do so before continuing.

- Power (ⓘ pg. 8)
- Grip Adjustment (ⓘ pg. 10)
- Viewfinder Adjustment (ⓘ pg. 10)
- Load A Cassette (ⓘ pg. 12)
- Recording Mode Setting (ⓘ pg. 13)

Press in the tabs on the lens cap to remove it.

1 Set the Power Switch to "A" or "V" while pressing down the Lock Button located on the switch.

2 **Shooting while using the LCD monitor:** Press **PUSH OPEN** and open the LCD monitor fully. Tilt it upward/downward for best viewability.

Shooting while using the viewfinder: Close the LCD monitor.

- The power lamp lights and the Camcorder enters the Record-Standby mode. "PAUSE" is displayed.

3 Press the Recording Start/Stop Button. "REC" appears while recording is in progress.

To Stop Recording...

... press the Recording Start/Stop Button. The camcorder re-enters the Record-Standby mode.

To Adjust The Brightness Of The Display

... rotate the MENU/BRIGHT wheel until the bright level indicator on the display moves and the appropriate brightness is reached.

- If you are using the GR-DVL500, it is also possible to adjust the brightness of the viewfinder by closing the LCD monitor and adjusting as described above.

Power Switch Position

M (Manual) : Allows you to set various recording functions using the Menus. If you want more creative capabilities than Full Auto recording, try this mode.

A (Full Auto) : Allows you to record using NO special effects or manual adjustments. Suitable for standard recording.

OFF

PLAY

: Allows you to play back a recording on the tape.



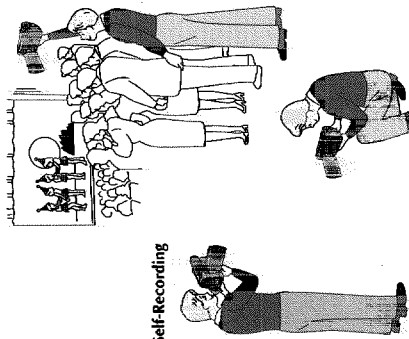
When the Power Switch is set to "A", "F. AUTO" appears. When set to "M" or "PLAY", there is no indication.

NOTES:

- When you use the LCD monitor outdoors in direct sunlight, the LCD monitor may be difficult to see. If this happens, use the viewfinder instead.
- The image will not appear simultaneously in the LCD monitor and the viewfinder.
- The cassette holder cannot be opened unless a power supply is attached.
- There may be a delay after you open the cassette holder cover until the cassette holder opens. Do not use force.
- Once the cassette holder is closed, it recedes automatically. Wait until it recedes completely before closing the cassette holder cover.
- The time required to calculate and display the remaining tape length, and the accuracy of the calculation, may vary according to the type of tape used.
- "TAPE END" appears when the tape reaches its end, and the power goes off automatically if left in this condition for 5 minutes. "TAPE END" also appears when a cassette at its end is loaded.
- If the Record-Standby mode continues for 5 minutes, the camcorder's power shuts off automatically. To turn the camcorder on again, set the Power Switch to "OFF", then back to "A" or "M".
- When a blank portion is left between recorded scenes on the tape, the time code is interrupted and errors may occur when editing the tape. To avoid this, refer to "Recording from the middle of a tape" (ⓘ pg. 19).
- During recording, sound is not heard from the speaker.
- To turn the tally lamp off during recording. ⓘ pg. 22, 23.
- To remove the indications from the camcorder's display during recording. ⓘ pg. 22, 25.

JOURNALISTIC SHOOTING

In some situations, different shooting angles may provide more dramatic results. Hold the camcorder in the desired position and tilt the LCD monitor in the most convenient direction. It can rotate 270° (90° downward, 180° upward).



Self-Recording

SELF-RECORDING

You can shoot yourself while viewing your own image in the LCD monitor. Open the LCD monitor and tilt it upward 180° so that it faces forward, then point the lens toward yourself and start recording.

Snapshot

This feature lets you record still images that look like photographs onto a tape.

SNAPSHOT MODE SELECTION

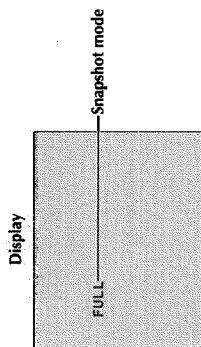
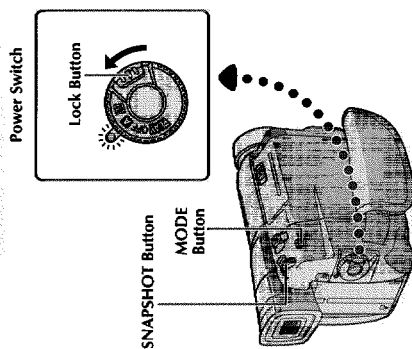
- 1** Set the Power Switch to "A" or "M" while pressing down the Lock Button located on the switch.
- 2** Choose the appropriate Snapshot mode from the 5 available by repeatedly pressing **MODE** until the desired snapshot mode indicator appears.

SNAPSHOT RECORDING

- 1** Press **SNAPSHOT**.
 If you press *during Record-Standby* ...
 ... "PHOTO" appears and a still image will be recorded for approx. 6 seconds, then the camcorder re-enters the Record-Standby mode.
 If you press *during Recording* ...
 ... "PHOTO" appears and a still image will be recorded for approx. 6 seconds, then the normal recording resumes.

Motor Drive Mode

Keeping **SNAPSHOT** pressed provides an effect similar to serial photography. (Interval between still images: approx. 1 second)



NOTES:

- Even if "MULTI-4" or "MULTI-9" is engaged, Snapshot recording will be performed in the FULL mode during Digital Zoom.
- If Snapshot recording is not possible, "PHOTO" blinks when **SNAPSHOT** is pressed.
- If Program AE with special effects (pg. 28) is engaged, certain modes of Program AE with special effects are disabled during Snapshot recording. In such a case, the icon blinks.
- If **SNAPSHOT** is pressed when "DIS" is set to "ON" (pg. 24), the Stabilizer will be disabled.
- During playback as well, all Snapshot modes are available. The shutter sound is not heard.
- During Snapshot recording, the image displayed in the viewfinder may be partially missing. However, there is no effect in the recorded image.
- When a cable is connected to the AV connector, the shutter sound is not heard from the speaker, however it is recorded onto the tape.
- **REC** will appear while the snapshot is being taken.

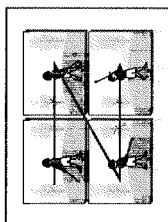
FULL
Snapshot mode
with no frame*



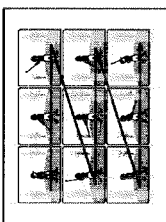
FRAME
Snapshot mode
with frame*



MULTI-4
Multi-Analyzer 4



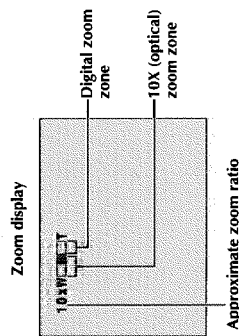
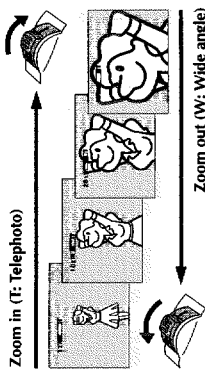
MULTI-9
Multi-Analyzer 9



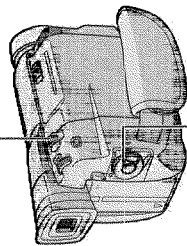
PIN-UP
Pin-Up mode*



* There is the sound effect of a shutter closing.



Power Zoom Lever



Power Switch

FEATURE: Zooming**PURPOSE:**

To produce the zoom in/out effect, or an instantaneous change in image magnification.

OPERATION:**Zoom In**

Slide the Power Zoom Lever towards "T".

Zoom Out

Slide the Power Zoom Lever towards "W".

- The further you slide the Power Zoom Lever, the quicker the zoom action.

NOTES:

- Focusing may become unstable during Zooming. In this case, set the zoom while in Record-Standby, lock the focus by using the manual focus (⏏ pg. 21), then zoom in or out in Record mode. (⏏ pg. 21) or Video Echo (⏏ pg. 28), or it can be switched to 10X magnification using the optical zoom (⏏ pg. 23).
- Zoom magnification of over 10X is done through Digital image processing, and is therefore called Digital Zoom.
- During Digital zoom, the quality of image may suffer.
- Digital zoom cannot be used when digital image processing, such as Picture Wipe/Dissolve (⏏ pg. 26, 27) or Video Echo (⏏ pg. 28), is activated.
- Macro shooting (as close as approx. 5 cm (2") to the subject) is possible when the Power Zoom Lever is set all the way to "W". Also see "TELE MACRO" in the Menu Screen on page 24.

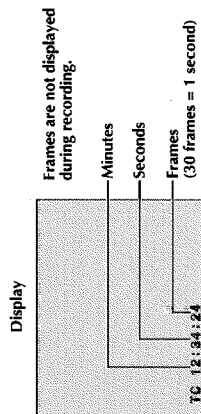
NOTE: Recording From The Middle Of A Tape**Time Code**

During recording, a time code is recorded on the tape. This code is to confirm the location of the recorded scene on the tape during playback.

If recording starts from a blank portion, the time code begins counting from "00:00:00" (minute-second-frame). If recording starts from the end of a previously recorded scene, the time code continues from the last time code number.

To perform Random Access Editing (⏏ pg. 44 - 49), time code is necessary. If during recording a blank portion is left partway through the tape, the time code is interrupted. When recording is resumed, the time code starts counting up again from "00:00:00". This means the camcorder may record the same time codes as those existing in a previously recorded scene. To prevent this, perform "Recording From The Middle of A Tape" below in the following cases;

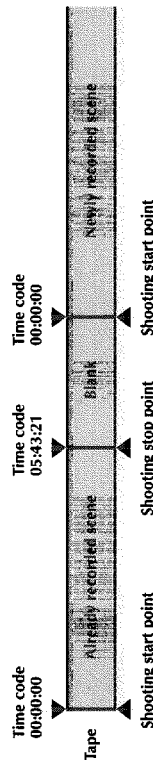
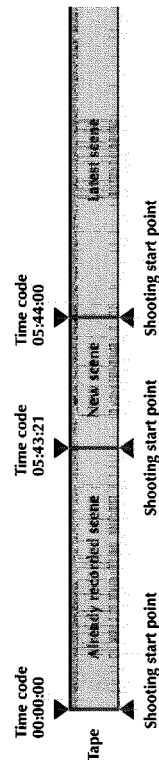
- When shooting again after playing back a recorded tape.
- When power shuts off during shooting.
- When a tape is removed and re-inserted during shooting.
- When shooting using a partially recorded tape.
- When shooting on a blank portion located partway through the tape.
- When shooting again after shooting a scene then opening/closing the cassette holder cover.

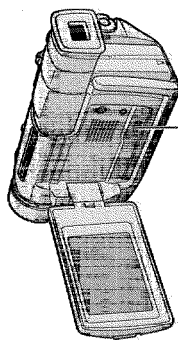
**Recording From The Middle Of A Tape**

1. Play back a tape to find the spot at which you want to start recording, then engage the Still Playback mode (⏏ pg. 31).
2. Set the Power Switch to "A" or "M" while pressing down the Lock Button located on the switch, then start recording.

NOTES:

- The time code cannot be reset.
- During fast-forwarding and rewinding, the time code indication does not move smoothly.
- The time code is displayed only when "TIME CODE" is set to "ON" (⏏ pg. 25, 32).

When a blank portion is recorded on a tape**Proper recording**



LIGHT OFF/AUTO/ON Switch
(Open the LCD monitor to
access this switch.)

DANGER

- The video light can become extremely hot. Do not touch it either while in operation or soon after turning it off, otherwise serious injury may result.
- Do not place the camcorder into the carrying case immediately after using the video light, since it remains extremely hot for some time.
- When operating, keep a distance of about 30 cm (11-13 1/16") between the video light and people or objects.
- Do not use near flammable or explosive materials.
- It is recommended that you consult your nearest JVC dealer for replacing the video light.



FEATURE: Video Light

PURPOSE:

To brighten the scene when natural lighting is too dim.

OPERATION:

Set **LIGHT OFF/AUTO/ON** as required:

OFF : Turns off the light.

AUTO : Automatically turns on the light when the camcorder senses insufficient lighting on the subject.

ON : Always keeps the light on as long as the camcorder is turned on.

■ The video light can only be used with the camcorder's power on.

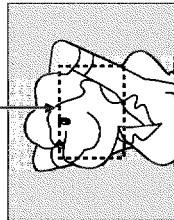
■ It is recommended to set the white balance (pg. 30) to $\star$ when you use the video light.

■ When not using the video light, turn it off to save battery power.

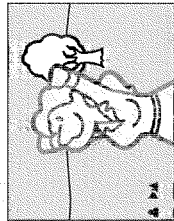
NOTES:

- Even if the battery indicator (pg. 28) does not blink due to low battery charge, the camcorder may turn off automatically when you turn on the video light, or when you start recording with the video light turned on.
- When **LIGHT OFF/AUTO/ON** is set to "AUTO":
 - Depending on the lighting conditions, the video light may keep turning on and off. In this case, manually switch the light on or off using **LIGHT OFF/AUTO/ON**.
- While the "SHUTTER" mode (pg. 28) is engaged, the light is likely to stay on.
- While the "TWILIGHT" mode (pg. 28) is engaged, the light will not activate.

Focus detection zone



While focusing on a further subject



While focusing on a nearer subject



FEATURE: Auto Focus

PURPOSE:

The camcorder's Full Range AF system offers continuous shooting ability from close-up (as close as approx. 5 cm (2") to the subject) to infinity.

However, correct focus may not be obtainable in the situations listed below (in these cases use manual focusing):

- When two subjects overlap in the same scene.
- When illumination is low.*
- When the subject has no contrast (difference in brightness and darkness), such as a flat, one-color wall, or a clear, blue sky.*
- When a dark object is barely visible in the viewfinder.*
- When the scene contains minute patterns or identical patterns that are regularly repeated.
- When the scene is affected by sunbeams or light reflecting off the surface of a body of water.
- When shooting a scene with a high-contrast background.
- * The following low-contrast warnings appear blinking: $\blacktriangle$, $\blacktriangleleft$, $\blacktriangleright$ and $\blacktriangleright$

NOTES:

- If the lens is smeared or blurred, accurate focusing is not possible. Keep the lens clean, wiping with a piece of soft cloth if it gets dirty. When condensation occurs, wipe with a soft cloth or wait for it to dry naturally.
- When shooting a subject close to the lens, zoom out first (pg. 18). If zoomed-in in the auto focus mode, the camcorder may automatically zoom out depending on the distance between the camcorder and the subject. This will not occur when "TELE MACRO" (pg. 24) is activated.

FEATURE: Manual Focus

PURPOSE:

To obtain correct focus.

OPERATION:

- 1) If you are using the viewfinder, you should already have made the necessary viewfinder adjustments (pg. 10).
 - 2) Set the Power Switch to "M", then press **FOCUS** ($\blacktriangleright$). The manual focus indicator appears.
 - 3) To focus on a farther subject, rotate the **MENU/BRIGHT** wheel towards " $\blacktriangleright$ ". " $\blacktriangleright$ " appears and blinks. To focus on a nearer subject, rotate the **MENU/BRIGHT** wheel towards " $\blacktriangleleft$ ". " $\blacktriangleleft$ " appears and blinks.
 - 4) Press the **MENU/BRIGHT** wheel. Focus adjustment is complete.
- To reset to Auto Focus, press **FOCUS** ($\blacktriangleright$) twice or set the Power Switch to "A".
If **FOCUS** ($\blacktriangleright$) is pressed once, the camcorder will enter the focus adjustment mode again.

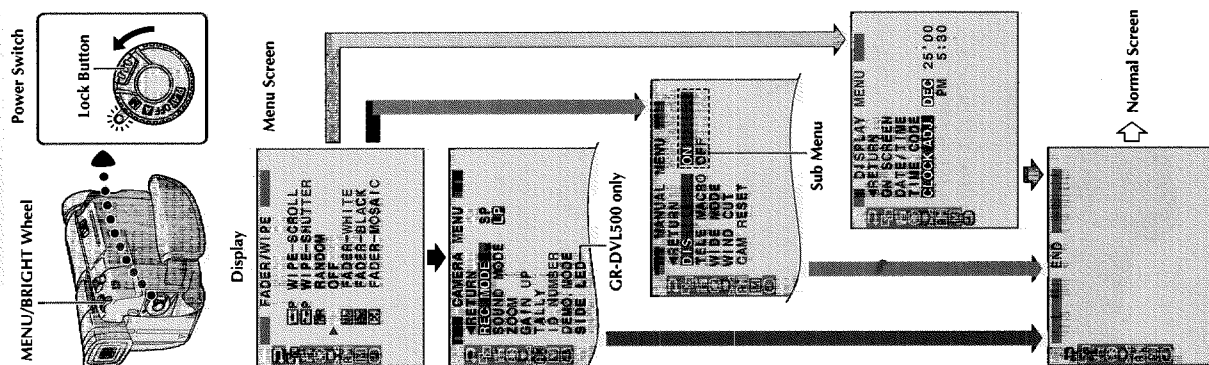
NOTES:

- Be sure to focus the lens in the maximum telephoto position when you use the Manual Focus mode. If you focus in on a subject in the wide-angle position, sharply focused images cannot be obtained when zoomed up because the depth-of-field is reduced at longer focal lengths.
- When the focus level cannot be adjusted any further or closer, " $\blacktriangleleft$ " or " $\blacktriangleright$ " will blink.

RECORDING Advanced Features (cont.)

Using Menus For Detailed Adjustment

This camcorder is equipped with an easy-to-use, on-screen menu system that simplifies many of the more detailed camcorder settings (see pg. 23 – 25).



Menu Screen Explanations

CAMERA MENU	
	FADER/WIPE
	P.A.E/EFFECT
	EXPOSURE
	W.BALANCE
REC MODE	Allows you to set the recording mode (SP or LP) depending on your preference (pg. 13).
SOUND MODE	12 BIT Enables recording of stereo sound on four separate channels, and is recommended for use when performing audio dubbing (pg. 50). (Equivalent to the 32 kHz mode of previous models) 16 BIT Enables recording of stereo sound on two separate channels. (Equivalent to the 48 kHz mode of previous models)
Zoom	10X When set to "10X" while using digital zoom, the zoom magnification will reset to 10X since digital zoom will be disengaged. 40X Allows you to use the Digital Zoom. By digitally processing and magnifying images, zooming is possible from 10X (the optical zoom limit), to a maximum of 40X digital magnification. 250X Allows you to use the Digital Zoom. By digitally processing and magnifying images, zooming is possible from 10X (the optical zoom limit), to a maximum of 250X digital magnification.
GAIN UP	OFF Allows you to shoot dark scenes with no picture brightness adjustment. 100 The overall appearance may be grainy, but the image is bright. AUTO The shutter speed is automatically adjusted (1/30 — 1/200 sec.). Shooting a subject in low or poor lighting at 1/30 sec. shutter speed provides a brighter image than in the AGC mode, but the subject's movements are not smooth or natural. The overall appearance may be grainy. When the shutter speed is automatically adjusted, "A$\frac{1}{30}$" is displayed.
TALLY	ON The tally lamp comes on to signal the start of recording. OFF The tally lamp remains off at all times.
ID NUMBER	This number is necessary when connecting the camcorder to a device such as a computer using the i terminal (iLiP). The numbers range from 01 to 99. Factory setting is 06.

: Factory-preset

NOTES:

- The **[RECALL]** CAMERA MENU settings are effective when the Power Switch is set to both "**A**" and "**M**".

Menu Screen Explanations (cont.)

CAMERA MENU	DEMO. MODE	ON	Demonstrates certain functions such as Program AE with special effects, etc., and can be used to confirm how these functions operate. When "DEMO. MODE" is set to "ON" and the Menu Screen is closed, demonstration starts. Performing any operation during the demonstration stops the demonstration temporarily. If no operation is performed for more than 1 minute after that, the demonstration will resume. NOTES: • If a tape is in the camcorder, the demonstration cannot be turned on. • "DEMO. MODE" remains "ON" even if the camcorder power is turned off. • If "DEMO. MODE" remains "ON", some functions will not be available. After viewing demo, set to "OFF". Automatic demonstration will not take place.
	SIDE LED (GR-DVL500 only)	OFF	The Side LED indicator (pg. 62, 63) lights on the camcorder when using the AC Power Adapter/Charger as a power supply unit, and lights for approx. 5 seconds when using the battery pack. The Power Switch should be set to "A" or "M".
MANUAL MENU	DIS	ON	To compensate for unstable images caused by camera-shake, particularly at high magnification. NOTES: • Accurate stabilization may not be possible if hand shake is excessive, or under the following conditions: • When shooting subjects with vertical or horizontal stripes. • When shooting dark or dim subjects. • When shooting subjects with excessive backlighting. • When shooting scenes with movement in various directions. • When shooting scenes with low-contrast backgrounds. • Switch off this mode when recording with the camcorder on a tripod. • The "Q" indicator blinks or goes out if the Stabilizer cannot be used.
	TELE MACRO	ON	Usually the distance to a subject where the lens is in focus depends on the zoom magnification. Unless there is a distance more than 1m (3.3 ft.) to the subject, the lens is out of focus at the maximum telephoto setting. When set to "ON", you can shoot a subject as large as possible at a distance of approx. 60 cm (2 ft.). • Depending on the zoom position, the lens may go out of focus.
	WIDE MODE	OFF	Records with no change in the screen ratio. For playback on a TV with a normal screen ratio.
MANUAL MENU	CINEMA		Inserts black bands at the top and bottom of the screen. During playback on wide-screen TVs, the black bands at the top and bottom of the screen are cut and the screen ratio becomes 16:9. appears. When using this mode, refer to your wide-screen TV's instruction manual. During playback/recording on 4:3 TVs/LCD monitor/viewfinder, black bands are inserted at the top and bottom of the screen and the image appears like a letterboxed 16:9 movie.
	SQUEEZE		For playback on TVs with an aspect ratio of 16:9. Naturally expands the image to fit the screen without distortion. appears. When using this mode, refer to your wide-screen TV's instruction manual. During playback/recording on 4:3 TVs/LCD monitor/viewfinder, the image is elongated vertically.

: Factory-preset

MANUAL MENU	WIND CUT	ON	Helps cut down on noise created by wind. "C" appears. The quality of the sound will change. This is normal.
	CAM RESET	OFF	Disengages the function which cuts down on noise created by wind.
DISPLAY MENU	CAM RESET	CANCEL	Does not reset all settings to the factory-preset.
	EXECUTE		Resets all settings to the factory-preset.
	ON SCREEN	LCD	Keeps the camcorder's display (except the date, time and time code) from appearing on the connected TV screen.
		LCD/TV	Makes the camcorder's display appear on screen when the camcorder is connected to a TV.
		SIMPLE	Keeps the indications (except the tape running indicator, warnings, date, time, time code, etc.) from appearing in the camcorder. Also keeps the camcorder's display (except the date, time and time code) from appearing on the connected TV screen.
MANUAL MENU	DATE/TIME	ON	The date/time is always displayed.
		OFF	The date/time does not appear.
	TIME CODE	ON	Time code is displayed on the camcorder and on the connected TV. Frame numbers are not displayed during recording.
		OFF	Time code is not displayed.
MANUAL MENU	CLOCK ADJ.		Allows you to set the current date and time (pg. 11).

: Factory-preset

NOTES:

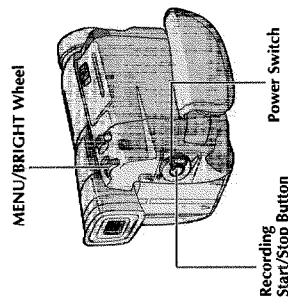
- The "MANUAL MENU" settings are effective only when the Power Switch is set to "M".
- "DISPLAY MENU" functions which are set when the Power Switch is set to "M" are also applied when the Power Switch is set to "PLAY" (pg. 32). "CLOCK ADJ." only appears when the Power Switch is set to "M".
- The "DISPLAY MENU" settings are effective even when the Power Switch is set to "A".
- The "ON SCREEN" setting can also be changed by pressing the **DISPLAY** Button on the remote control (provided) (pg. 35, 36, 45).

Fade/Wipe Effects

These effects let you make pro-style scene transitions. Use them to spice up the transition from one scene to the next. You can also vary transitions from scene to scene.

IMPORTANT:

Some Fade/Wipe Effects cannot be used with certain modes of Program AE with special effects (⏏ pg. 28). If an unusable Fade/Wipe Effect is selected, its indicator blinks or goes out.



To Deactivate The Selected Effect . . .
 select "OFF" in step 4.

NOTES:

- You can extend the length of a Fade or Wipe by pressing and holding the Recording Start/Stop Button.
- If the power is turned off after a scene is finished recording, the stored point is erased, disabling the Picture Wipe/Dissolve combination. When this happens, the Picture Wipe/Dissolve indicator blinks. Also note that power shuts off automatically if 5 minutes elapse in the Record-Standby mode.
- The sound at the end of the last recorded scene is not stored.

Fader And Wipe Menu

Menu	Effect
FADER — WHITE	Fade in or out with a white screen.
FADER — BLACK	Fade in or out with a black screen.
FADER — MOSAIC	Fade in or out with a full-screen mosaic effect.
FADER — B.W	Fade in to a color screen from a black and white screen, or fade out from color to black and white.
WIPE — CORNER	Wipe in on a black screen from the upper right to the lower left corner, or wipe out from lower left to upper right, leaving a black screen.
WIPE — WINDOW	The scene starts in the center of a black screen and wipes in toward the corners, or comes in from the corners, gradually wiping out to the center.
WIPE — SLIDE	Wipe in from right to left, or wipe out from left to right.
WIPE — DOOR	Wipe in as the two halves of a black screen open to the left and right, revealing the scene, or wipe out and the black screen reappears from left and right to cover the scene.
WIPE — SCROLL	The scene wipes in from the bottom to the top of a black screen, or wipes out from top to bottom, leaving a black screen.
WIPE — SHUTTER	Wipe in from the center of a black screen toward the top and bottom, or wipe out from the top and bottom toward the center leaving a black screen.
P DISSOLVE	The new scene gradually appears as the old one gradually disappears.
P WIPE — CORNER	The new scene wipes in over the previous one from the upper right corner to the lower left corner.
P WIPE — WINDOW	The next scene gradually wipes in from the center of the screen toward the corners, covering the previous scene.
P WIPE — SLIDE	The next scene gradually wipes in over the previous one from right to left.
P WIPE — DOOR	The previous scene wipes out from the center to the right and left, like a door being pushed open to reveal the next scene.
P WIPE — SCROLL	The new scene wipes in over the last one from the bottom of the screen to the top.
P WIPE — SHUTTER	The new scene wipes in over the previous one from the center toward the top and bottom of the screen.
?R RANDOM	When this function is activated, the camcorder randomly selects the effect used in scene transition (from and). The Picture Wipe/Dissolve function is not available.

FADE/WIPE SELECTION (, , , , , , , , , , and)

Fade or Wipe works when recording is started or when you stop recording.

- 1 Set the Power Switch to "M" while pressing down the Lock Button located on the switch.
- 2 Press the MENU/BRIGHT wheel. The Menu Screen appears.
- 3 Rotate the MENU/BRIGHT wheel to select , then press it.
- 4 Rotate the MENU/BRIGHT wheel to select the desired function, then press it. Selection is complete.
 - The FADER/WIPE Menu disappears and the effect is reserved. The indicator representing the selected effect appears.
- 5 Press the Recording Start/Stop Button to activate the Fade-in/out or Wipe-in/out.

PICTURE WIPE OR DISSOLVE SELECTION

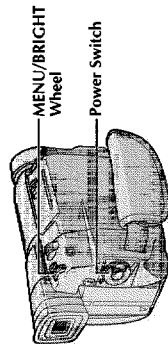
(, , , , , , and)

The Picture Wipe or Dissolve works when recording is started.

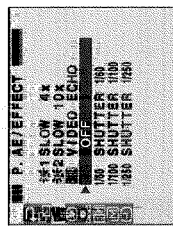
- 1 Follow steps 1 through 4 above.
- 2 **If you select Picture Wipe/Dissolve during recording . . .**
 - press the Recording Start/Stop Button when one scene is finished. The point at which the scene ended is stored in memory.
- 3 **If you select Picture Wipe/Dissolve during Record-Standby mode . . .**
 - press the Recording Start/Stop Button to start recording and press it again when one scene is finished. The point at which the scene ended is stored in memory.
- 4 **If you select Picture Wipe/Dissolve during Record-Standby mode after performing a Picture Wipe/Dissolve . . .**
 - the point at which the scene ended is already stored in memory.
- 5 **If you start recording a new scene within 5 minutes of the end of the previous recording (without having turned the camcorder's power off), the previous scene wipes out, revealing the new scene.**

IMPORTANT:

Some modes of Program AE with special effects cannot be used with certain Fade/Wipe Effects (pg. 27). If an unusable mode is selected, its indicator blinks or goes out.



Display



Menu Screen

To Deactivate The Selected Mode ...

... select "OFF" in step 4.

NOTE:

Program AE with special effects can be changed during recording or during Record-Standby.

Program AE With Special Effects

- 1** Set the Power Switch to "M" while pressing down the Lock Button located on the switch.
- 2** Press the MENU/BRIGHT wheel. The Menu Screen appears.
- 3** Rotate the MENU/BRIGHT wheel to select "P", then press it.
- 4** Rotate the MENU/BRIGHT wheel to select the desired mode, then press it. Selection is complete.
 - The P/AE/EFFECT Menu disappears and the selected mode is activated. The selected mode indicator appears.

TWILIGHT

Makes evening scenes look more natural. White Balance (pg. 30) is initially set to 3200K, but can be changed to your desired setting. When Twilight is chosen, the camcorder automatically adjusts the focus from approx. 10 m (32 ft) to infinity. From less than 10 m (32 ft), adjust the focus manually.

SEPIA
Recorded scenes have a brownish tint like old photos. Combine this with the Cinema mode for a classic look.

B/W MONOTONE
Like classic black and white films, your footage is shot in B/W. Used together with the Cinema mode, it enhances the "classic film" effect.

CLASSIC FILM

Gives recorded scenes a strobe effect.

STROBE

Your recording looks like a series of consecutive snapshots.

VIDEO ECHO

Adds a "ghost" to the subject, giving your recording a "fantasy" feeling. Zoom magnification of over 10X is not available.

SLOW (Slow Shutter)

Lights dark subjects or areas even brighter than they would be under good natural lighting. Use "SLOW" only in dark areas.

1 SLOW 4X

The Shutter Speed is set to 1/15th of a second to quadruple the sensitivity.

2 SLOW 10X

The Shutter Speed is set to 1/6th of a second to provide 10 times the sensitivity.

NOTES:

- When using "SLOW", the image takes on a strobe-like effect.
- If the manual focus indicator blinks when "SLOW" is used, adjust focus manually and use a tripod.

SHUTTER (Variable Shutter Speed)

1/60—The shutter speed is fixed at 1/60th of a second. Black bands that usually appear when shooting a TV screen become narrower.

1/100—The shutter speed is fixed at 1/100th of a second. The flickering that occurs when shooting under a fluorescent light or mercury-vapor lamp is reduced.

1/250, 1/500—These settings allow fast-moving images to be captured one frame at a time, for vivid, stable slow-motion playback. The faster the shutter speed, the darker the picture becomes. Use the shutter function under good lighting conditions.

Exposure Control

Manual exposure adjustment is recommended in the following situations:

- When shooting using reverse lighting or when the background is too bright.
- When shooting on a reflective natural background such as at the beach or when skiing.
- When the background is overly dark or the subject light.

- 1** Set the Power Switch to "M" while pressing down the Lock Button located on the switch.
- 2** Press the MENU/BRIGHT wheel. The Menu Screen appears.
- 3** Rotate the MENU/BRIGHT wheel to select "E", then press it.
- 4** Rotate the MENU/BRIGHT wheel to select "MANUAL", then press it. The Menu Screen disappears. "Exp" and the highlight bar on the exposure control indicator are displayed.
- 5** Rotate the MENU/BRIGHT wheel towards "+" to brighten the image, or towards "-" to darken the image. (maximum ± 6)
- 6** Press the MENU/BRIGHT wheel. Exposure adjustment is complete. The indication "Exp" and the highlight bar on the exposure control indicator go out.

To Return To Automatic Exposure Control ...

... select "AUTO" in step 4. Or, set the Power Switch to "A".

NOTE:**To Brighten The Subject Quickly ...**

... press BACKLIGHT. [B] is displayed and the subject is brightened. If pressed again, [B] disappears and the brightness returns to the previous level.

• +3 exposure has the same effect as the BACKLIGHT Button.

• Using BACKLIGHT may cause the light around the subject to become too bright and the subject to become white.

• Backlight compensation is also available when the Power Switch is set to "A".

• Pressing the BACKLIGHT button has no effect when the exposure [E] is set to "MANUAL" and the Power Switch is set to "M".

Iris Lock

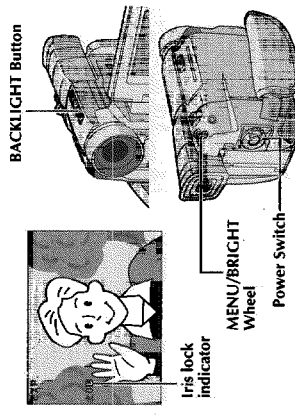
Use this function in the following situations:

- When shooting a moving subject.
- When the distance to the subject changes (so its size in the LCD monitor or the viewfinder changes), such as when the subject is backing away.
- When shooting on a reflective natural background such as at the beach or when skiing.
- When shooting objects under a spotlight.
- When zooming.

When the subject is close, keep the iris locked. Even when the subject moves away from you, the image will not darken or brighten.

Before the following steps, perform steps 1 through 4 of "Exposure Control".

5 Adjust zoom so that the subject fills the LCD monitor or the viewfinder, then press and hold the MENU/BRIGHT wheel for over 2 seconds. The exposure control indicator and "I" appear. Press the MENU/BRIGHT wheel. "I" changes to "L" and the iris is locked. "Exp" goes out.

**To Return To Automatic Iris Control ...**

... rotate the MENU/BRIGHT wheel to display "AUTO" then press it in step 4. The exposure control indicator and "I" disappear. Or, set the Power Switch to "A".

To Lock The Exposure Control And The Iris ...

... after step 4, adjust the exposure rotating the MENU/BRIGHT wheel. Then lock the iris in step 5. For automatic locking, rotate the MENU/BRIGHT wheel to select "AUTO", then press it in step 4. The iris becomes automatic after about 2 seconds.

Iris

Like the pupil of the human eye, it contracts in well-lit environments to keep too much light from entering, and dilates in dim environments to allow in more light.

White Balance Adjustment

A term that refers to the correctness of color reproduction under various lighting. If the white balance is correct, all other colors will be accurately reproduced. The white balance is usually adjusted automatically. However, more advanced camcorder operators control this function manually to achieve a more professional color/tint reproduction.

- 1 Set the Power Switch to "II" while pressing down the Lock Button located on the switch. The Menu Screen appears.
- 2 Press the MENU/BRIGHT wheel. The Menu Screen appears.
- 3 Rotate the MENU/BRIGHT wheel to select "WB", then press it. The Menu Screen disappears and "WBAL" and the currently selected mode are displayed.
- 4 Rotate the MENU/BRIGHT wheel to select the desired mode.
 - "AUTO" - White balance is adjusted automatically (factory preset).
 - "MAN" - White balance is set manually.
 - "SUN" - Outdoors on a sunny day.
 - "CLD" - Outdoors on a cloudy day.
 - "VID" - A video light or similar type of lighting is used.
- 5 Press the MENU/BRIGHT wheel. Selection is complete.

To Return To Automatic White Balance ...

... select "AUTO" in step 4. Or, set the Power Switch to "II".

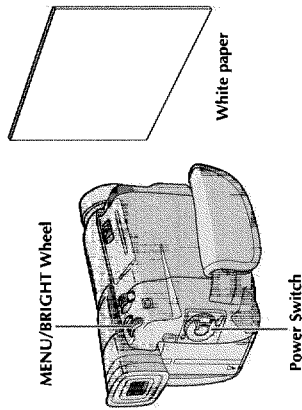
NOTE:

White balance cannot be used when Sepia or Monotone (pg. 28) is activated.

Manual White Balance Operation

Perform Manual White Balance when shooting under various types of lighting.

- 1 Follow steps 1 through 4 of the white balance adjustment, and select "MAN".
- 2 Hold a sheet of plain white paper in front of the subject. Adjust zoom or position yourself so that the white paper fills the screen.
- 3 Press the MENU/BRIGHT wheel until the screen begins blinking.
- 4 Press the MENU/BRIGHT wheel. Only the Manual White Balance indicator is displayed.

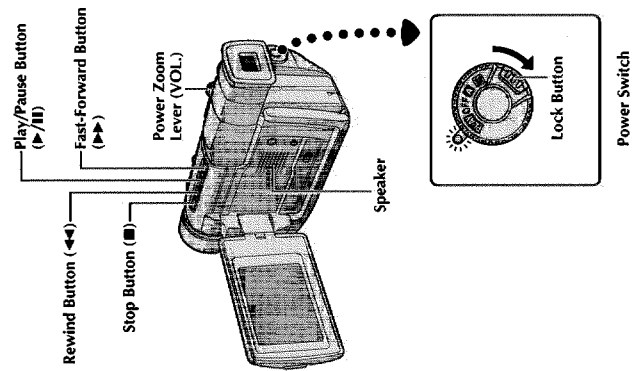


To Change The Tint For Recording ...
 ... in step 2, substitute colored paper for white. The white balance is adjusted based on the color, changing the tint. Red paper = deeper green; blue paper = orange; yellow paper = deeper purple.

NOTES:

- In step 2, it may be difficult to focus on the white paper. In such a case, adjust focus manually (pg. 21).
- A subject can be shot under various types of lighting conditions indoors (natural, fluorescent, candlelight, etc.). Because the color temperature is different depending on the light source, the subject tint will differ depending on the white balance settings. Use this function for a more natural result.
- Once you adjust white balance manually, the setting is retained even if the power is turned off or the battery removed.

PLAYBACK Basic Playback



1 Load a tape (pg. 12).

- 2 Set the Power Switch to "II" while pressing down the Lock Button located on the switch. To start playback, press ►/II.
 - To stop playback, press ■.
 - Press ◀◀ to rewind, or ►► to fast-forward the tape during Stop mode.

To Control The Speaker Volume ...

... slide the Power Zoom Lever (VOL.) towards "+" to turn up the volume, or towards "-" to turn down the volume.

NOTES:

- If Stop mode continues for 5 minutes when power is supplied from a battery, the camcorder shuts off automatically. To turn on again, set the Power Switch to "Off", then to "II".
- The playback picture can be viewed in the LCD monitor, viewfinder or on a connected TV (pg. 34).
- You can also view the playback picture on the LCD monitor with it flipped over and pushed against the camera body.
- LCD monitor/viewfinder indications:
 - When power is supplied from a battery: the "B" battery pack remaining power indicator is displayed. When power is supplied through the DC cord: "C" does not appear.
 - During Stop mode, none of the indications are displayed.
 - When a cable is connected to the AV connector, the sound is not heard from the speaker.

Still Playback:

- 1) Press ►/II during playback.
- 2) To resume normal playback, press ►/II again.
 - If still playback continues for more than about 3 minutes, the camcorder's Stop mode is automatically engaged. After 5 minutes in the Stop mode, the camcorder's power is automatically turned off.
 - When ►/II is pressed, the image may not pause immediately while the camcorder stabilizes the still image.

Shuttle Search:

- 1) Press ►► for forward or ◀◀ for reverse search in either direction.
- 2) To resume normal playback, press ►/II.
- During playback, press and hold ◀◀ or ►►. The search continues as long as you hold the button. Once you release it, normal playback resumes.
- A slight mosaic effect appears on screen during Shuttle Search. This is not a malfunction.

Frame-By-Frame Playback:

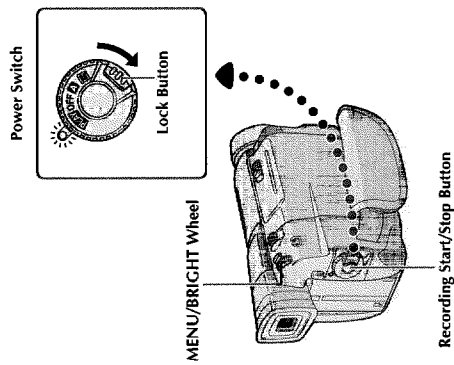
- 1) Engage Still Playback.
- 2) Rotate the MENU/BRIGHT wheel towards "+" for forward Frame-By-Frame Playback, or towards "-" for reverse Frame-By-Frame Playback during Still Playback.
 - To resume normal playback, press ►/II.
 - You can also use the provided remote control for Frame-By-Frame Playback (pg. 42).

Playback Zoom and Playback Special Effects

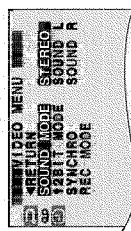
Available only with the remote control (provided) (pg. 42, 43).

Using Menus For Detailed Adjustment

The following procedure applies to all except *Synchro Comp* (☞ pg. 48, 49).



Display



Menu Screen



* Each setting is linked with "DISPLAY MENU", which appears when the Power Switch is set to "ON" (☞ pg. 25). The parameters are the same as in the description on pg. 25.

NOTES:

- It is also possible to change the ON SCREEN settings by pressing **DISPLAY** on the remote control (provided).
- "REC MODE" can be set when the Power Switch is set to "PLAY" or "M" (☞ pg. 13, 23).
- If "ON SCREEN" is set to "SIMPLE", it keeps the camcorder's display (except the date, time and time code) from appearing on the connected TV. It also makes the playback sound mode and tape speed disappear on the camcorder.

Playback Sound

During playback, the camcorder detects the sound mode in which the recording was made, and plays the sound back. Select the type of sound to accompany your playback picture. According to the menu access explanation on pg. 32, select "SOUND MODE" or "12BIT MODE" from the Menu Screen and set it to the desired parameter.

SOUND MODE	STEREO	Sound is output on both "L" and "R" channels in stereo.
	SOUND L	Sound from the "L" channel is output in stereo.
	SOUND R	Sound from the "R" channel is output in stereo.
12BIT MODE	SOUND 1	Original sound is output on both "L" and "R" channels in stereo.
	SOUND 2	Dubbed sound is output on both "L" and "R" channels in stereo.
	MIX	Original and dubbed sounds are combined and output in stereo on both "L" and "R" channels in stereo.

: Factory-preset

NOTES:

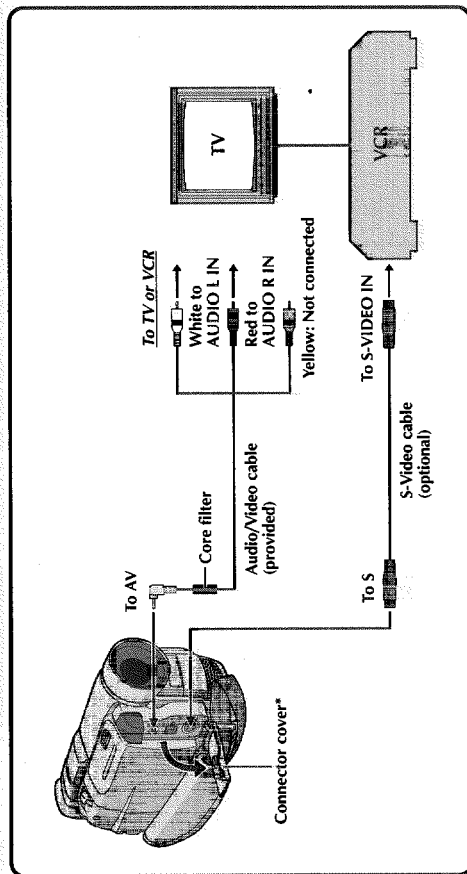
- The "SOUND MODE" setting is available for both 12-bit and 16-bit sound. (In previous models' functions, "12-bit" is called "32 kHz" and "16-bit" is called "48 kHz".)
- The camcorder cannot detect the sound mode in which the recording was made during fast-forward or rewind. During playback the sound mode is displayed in the upper left corner.

Display

ON SCREEN setting: For playback sound, tape speed and tape running.	DATE/TIME setting: For date/time.	TIME CODE setting: For time code.
12BIT TV/SOUND1 SP ▶	DEC 25 '00 PM 5:30	TC 12:34:24 Frames* Seconds Minutes *30 frames = 1 second

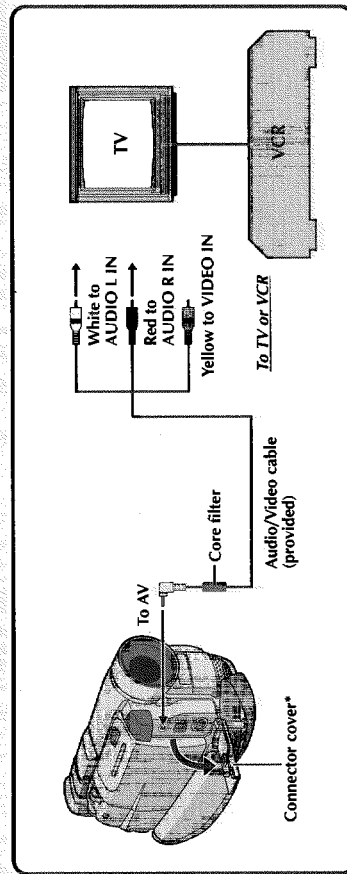
These are some basic types of connections. When making the connections, refer also to your VCR and TV instruction manuals.

A. Connection to a TV or VCR equipped with an S-VIDEO IN and A/V input connectors



*When connecting the cables, open this cover.

B. Connection to a TV or VCR equipped only with A/V input connectors



*When connecting the cables, open this cover.

1 Make sure all units are turned off.

2 Connect the camcorder to a TV or VCR as shown in the illustration (pg. 34).
If using a VCR... go to step 3.
If not... go to step 4.

3 Connect the VCR output to the TV input, referring to your VCR's instruction manual.

4 Turn on the camcorder, the VCR and the TV.

5 Set the VCR to its AUX input mode, and set the TV to its VIDEO mode.

To choose whether or not the following displays appear on the connected TV...

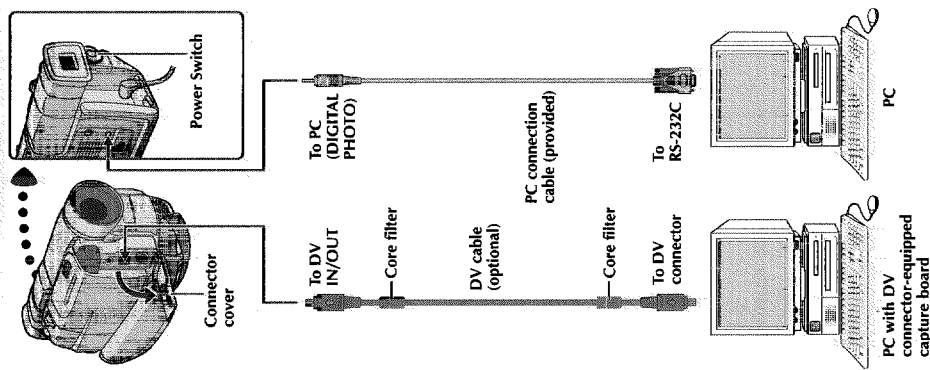
- Date/Time ... set "DATE/TIME" to "ON" or "OFF" in the Menu Screen (pg. 32).
- Time Code ... set "TIME CODE" to "ON" or "OFF" in the Menu Screen (pg. 32).
- Playback Sound Mode, Tape Speed And Tape Running Displays ... set "ON SCREEN" to "LCD" or "SIMPLE" in the Menu Screen (pg. 32). Or, press **DISPLAY** on the remote control (provided).

NOTES:

- It is recommended to use the AC Power Adapter/Charger as the power supply instead of the battery pack (pg. 9).
- Use the provided Audio/Video cable, making sure to connect the end with a core filter to the camcorder. The core filter reduces interference.
- To monitor the picture and sound from the camcorder without inserting a tape, set the camcorder's Power Switch to "A" or "M", then set your TV to the appropriate input mode.
- Make sure you adjust the TV sound volume to its minimum level to avoid a sudden burst of sound when the camcorder is turned on.
- If you have a TV or speakers that are not specially shielded, do not place the speakers adjacent to the TV as interference will occur in the camcorder playback picture.

Connection To A Personal Computer

This camcorder can transfer still images to a PC by using the provided software when connected as shown in the illustration. It is also possible to transfer still images to a PC with a DV connector-equipped capture board installed.



- 1 Make sure the camcorder and PC are turned off.
- 2 Connect the camcorder to your PC using the appropriate cable as shown in the illustration.
- 3 Turn the camcorder's Power Switch to "PLAY" while pressing down the Lock Button located on the switch and turn on the PC.

NOTES:

- It is recommended to use the AC Power Adapter/Charger as the power supply instead of the battery pack (pg. 9).
- Never connect the PC connection cable and the DV cable simultaneously to the camcorder. Connect only the cable you wish to use to the camcorder.
- The date/time information cannot be captured into the PC.
- Refer to the instruction manuals of the provided Software.
- Also refer to the manufacturer's instruction manual for the DV connector-equipped capture board.
- When using a DV cable, be sure it has a core filter attached. The core filter reduces interference.

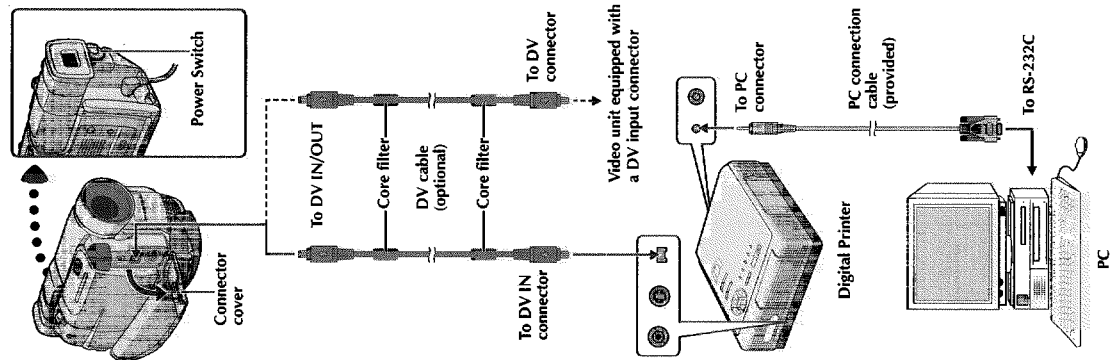
Connection To A Video Unit Equipped With A DV Connector

Connection to the GV-DT3 Digital Printer (optional) allows you to print out images or transfer them to a PC. It is also possible to copy recorded scenes from the camcorder onto another video unit equipped with a DV connector. This function is called Digital Dubbing (pg. 39), which offers virtually no image or sound deterioration.

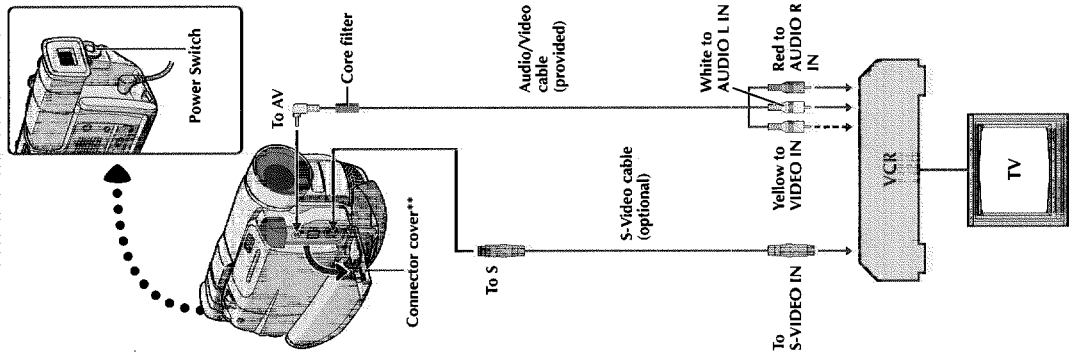
- 1 Make sure all units are turned off.
- 2 Make connections to the device you want to connect to using a DV cable, as shown in the illustration.
- 3 If necessary, connect the PC connection cable (provided) to the printer's PC connector and the PC's RS-232C connector.
- 4 Turn the camcorder's Power Switch to "PLAY" while pressing down the Lock Button located on the switch and turn on the other units.

NOTES:

- It is recommended to use the AC Power Adapter/Charger as the power supply instead of the battery pack (pg. 9).
- For Digital Dubbing, this camcorder can be connected only to one device at a time. This camcorder can also be used as a recorder (pg. 39).
- If Still Playback, Slow-Motion Playback, Fast-Forward or Rewind is attempted with the camcorder connected to a video unit via the DV connector, the image will take on an effect similar to a colored mosaic pattern or it will become black.
- Also refer to the instruction manuals of the connected units.
- When using a DV cable, be sure it has a core filter attached. The core filter reduces interference.



Dubbing To A VCR



- * Connect when an S-Video cable is not used.
- ** When connecting the cables, open this cover.

- 1 Following the illustration, connect the camcorder and the VCR. Also refer to pg. 34 and 35.
- 2 Set the camcorder's Power Switch to "PLAY" while pressing down the Lock Button located on the switch, turn on the VCR's power, and insert the appropriate cassettes in the camcorder and the VCR.
- 3 Engage the VCR's AUX and Record-Pause modes.
- 4 Engage the camcorder's Play mode to find a spot just before the edit-in point. Once it is reached, press ►/II on the camcorder.
- 5 Press ►/II on the camcorder and engage the VCR's Record mode.
- 6 Engage the VCR's Record-Pause mode and press ►/II on the camcorder.
- 7 Repeat steps 4 through 6 for additional editing, then stop the VCR and camcorder when finished.

NOTES:

- Use the provided Audio/Video cable, making sure to connect the end with a core filter to the camcorder. The core filter reduces interference.
- You can use Playback Zoom (pg. 42) or Playback Special Effects (pg. 43) in step 5.
- Before you start dubbing, make sure that the indications do not appear on the connected TV. If they do, they are being recorded onto the new tape.

To choose whether or not the following displays appear on the connected TV...

- Date/Time set "DATE/TIME" to "ON" or "OFF" in the Menu Screen (pg. 32).
- Time Code set "TIME CODE" to "ON" or "OFF" in the Menu Screen (pg. 32).
- Playback Sound Mode, Tape Speed And Tape Running Displays set "ON SCREEN" to "LCD" or "SIMPLE" in the Menu Screen (pg. 32). Or, press DISPLAY on the remote control.

Dubbing To Or From A Video Unit Equipped With A DV Connector (Digital Dubbing)

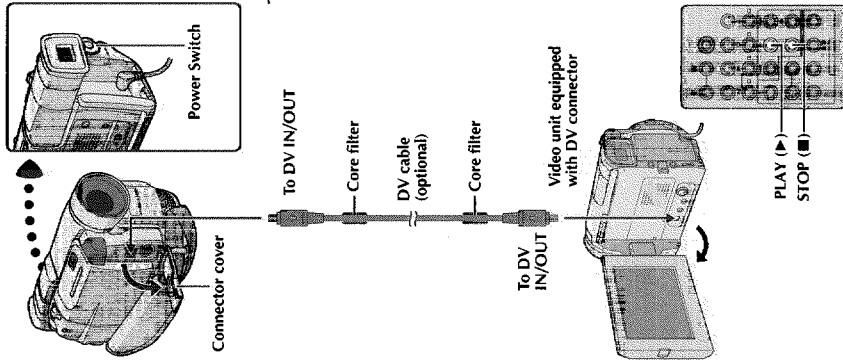
It is also possible to copy recorded scenes from the camcorder onto another unit equipped with a DV connector. Since a digital signal is sent, there is little if any image or sound deterioration.

[To use this camcorder as a player]

- 1 Make sure the camcorder's power is off.
- 2 Connect the camcorder to your video unit equipped with a DV connector using a DV cable as shown in the illustration.
- 3 Press ► to play back the source tape.
- 4 While watching the playback on the monitor, engage the DV connector-equipped video unit's record mode from the spot on the source tape you want to begin recording.

NOTES:

- It is recommended to use the AC Power Adapter/Charger as the power supply instead of the battery pack (pg. 9).
- If the remote control is used when both the player and recorder are JVC video units, both units will perform the same operation. To prevent this from happening, press the buttons on both units.
- For Digital Dubbing, this camcorder can be connected only to one device at a time. This camcorder can also be used as a recorder.
- If a blank portion or disturbed image is played back on the player during dubbing, the dubbing may stop so that an unusual image is not dubbed.
- Even though the DV cable is connected correctly, sometimes the image may not appear in step 3. If this occurs, turn off the power and make connections again.
- If "Playback Zoom" (pg. 42), "Playback Special Effects" (pg. 43) or "Snapshot" is attempted during playback, only the original playback image recorded on the tape is output from the DV IN/OUT connector.
- When using a DV cable, be sure it has a core filter attached. The core filter reduces interference.



To Use This Camcorder As A Recorder...

1. Turn the Power Switch to "PLAY" while pressing down the Lock Button located on the switch.
2. Set "REC MODE" to "SP" or "LP" in the Menu Screen (pg. 32).
3. Connect the DV cable as shown in the illustration and load a cassette to record on.
4. Press the Recording Start/Stop button to engage the Record-Pause mode. "DV IN" appears on the screen.
5. Press the Recording Start/Stop button to start recording. "DV IN" changes to "DV IN".
6. Press the Recording Start/Stop button again to engage the Record-Pause mode. "DV IN" returns to "DV IN".

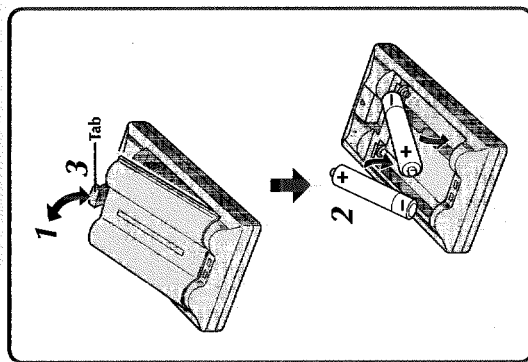
NOTES:

- Digital Dubbing is performed in the sound mode recorded on the original tape, regardless of the current "SOUND MODE" setting (pg. 23).
- During Digital Dubbing, no signals are output from the video or audio connectors.

The Full-Function Remote Control Unit can operate this camcorder from a distance as well as the basic operations (Playback, Stop, Pause, Fast-Forward and Rewind) of your VCR. It also makes additional playback functions possible.

Installing The Batteries

The remote control uses two "AAA (R03)" size batteries. See "General Battery Precautions" (pg. 64).

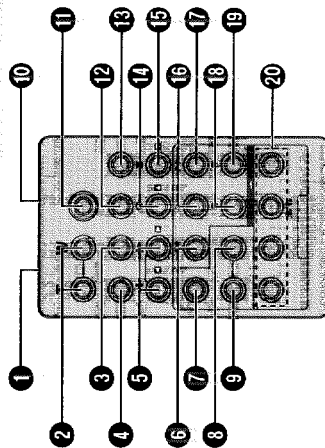
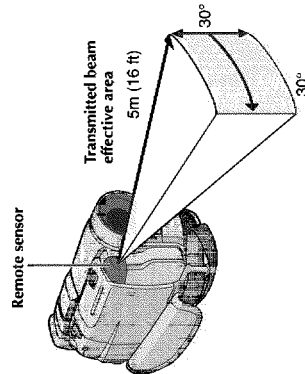


1 Remove the battery compartment cover while pushing up the tab as illustrated.

2 Insert two "AAA (R03)" size batteries in the correct direction.

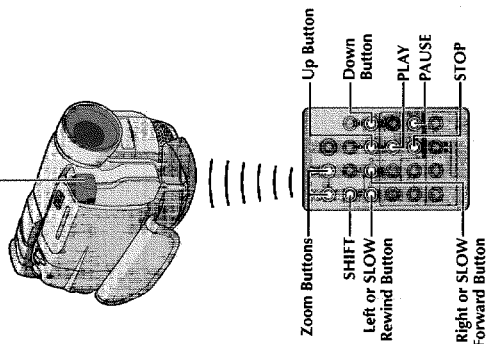
3 Re-attach the battery compartment cover.

When using the remote control, be sure to point it at the remote sensor. The illustration shows the approximate transmitted beam effective area for indoor use. The transmitted beam may not be effective or may cause incorrect operation outdoors or when the remote sensor is directly exposed to sunlight or powerful lighting.



Buttons	Functions	
	With the camcorder's Power Switch set to the camera position ("A" or "CAM")	With the camcorder's Power Switch set to "VCR"
1 Infrared beam transmitting window	Transmits the beam signal.	
2 Zoom (T/W) Buttons	Zoom In/out (pg. 18)	Zoom In/out (pg. 42)
3 DISPLAY Button	—	pg. 35, 38, 45
4 SHIFT Button	—	pg. 42, 44
5 SLOW Rewind/Forward Buttons Left/Right Buttons	—	pg. 42
6 REW Button	—	Rewind, Reverse Shuttle Search (pg. 31)
7 FADE/WIPE Button	—	pg. 46
8 EFFECT ON/OFF Button	—	pg. 43
9 EFFECT Button	—	pg. 43
10 PAUSE IN Connector	—	pg. 45
11 START/STOP Button	Functions the same as the Recording Start/Stop Button on the camcorder.	
12 MBR SET Button	—	pg. 44
13 SNAPSHOT Button	Functions the same as SNAPSHOT on the camcorder.	
14 Up Button INSERT Button	—	pg. 42
15 Down Button A. DUB Button	—	pg. 42
16 PLAY Button	—	pg. 50
17 FF Button	—	Playback start (pg. 31)
18 STOP Button	—	Forward, Forward Shuttle Search (pg. 31)
19 PAUSE Button	—	Stop (pg. 31)
20 R.A-EDIT Buttons	—	Pause (pg. 42)
		pg. 44 - 49

Remote sensor



Normal playback



Press T



To move image, press **□** (Right) while keeping **SHIFT** held down.

FEATURE: Slow-Motion Playback

PURPOSE:

To allow slow-speed search in either direction during playback.

OPERATION:

- 1) To change from normal to Slow-Motion Playback, press **PAUSE (II)** to engage Still Playback then press **SLOW (◀ or ▶)** more than approx. 2 seconds. After approx. 1 minute in Slow Rewind or approx. 2 minutes in Slow Forward, normal playback resumes.
- To stop Slow-Motion Playback, press **PLAY (▶)**.

NOTES:

- During Slow-Motion Playback, due to digital image processing, the picture may take on a mosaic effect.
- After **SLOW (◀ or ▶)** is pressed and held, the still image may be displayed for a few seconds. This is followed by a blue screen for a few seconds. This is not a malfunction.
- There may be a small margin between the slow-motion playback start point you chose and the actual start point for Slow-Motion Playback.
- During Slow-Motion Playback, there will be disturbances in video and the picture may seem unstable, especially with steady images. This is not a malfunction.
- During Slow-Motion Playback, press **PAUSE (II)** to pause playback.

FEATURE: Frame-By-Frame Playback

PURPOSE:

To allow frame-by-frame search during playback.

OPERATION:

- 1) To change from normal to Frame-By-Frame Playback, press **PAUSE (II)** to engage Still Playback then press **SLOW (▶)** repeatedly for forward or **SLOW (◀)** repeatedly for reverse. Each time it is pressed, the frame is played back.

FEATURE: Playback Zoom

PURPOSE:

To magnify the recorded image up to 25X at any time during playback.

OPERATION:

- 1) Press **PLAY (▶)** to find the scene of interest.
- 2) Press the Zoom Buttons (T/W) on the remote control. Make sure the remote control is pointed at the camcorder's remote sensor. Pressing **T** zooms in.
- 3) You can move the image on screen around to find a particular portion of the picture. While holding down **SHIFT**, press **□** (Left), **□** (Right), **□** (Up) and **□** (Down).
- To end zoom, press and hold **W** until magnification returns to normal. Or, press **STOP (■)** and then press **PLAY (▶)**.

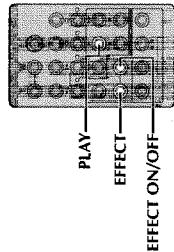
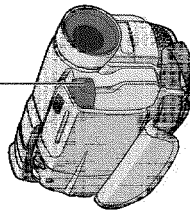
NOTES:

- Zoom can also be used during slow-motion and still playback.
- Due to digital image processing, the quality of the image may suffer.

PLAYBACK EFFECT Select Menu



Remote sensor



FEATURE: Playback Special Effects

PURPOSE:

To allow you to add creative effects to the playback image.

OPERATION:

- 1) To start playback, press **PLAY (▶)**.
- 2) Point the remote control at the camcorder's remote sensor and press **EFFECT**. The **PLAYBACK EFFECT Select Menu** appears.
- 3) Move the highlight bar to the desired effect by pressing **EFFECT**. The selected function is activated and after 2 seconds the menu disappears.
- To deactivate the selected effect, press **EFFECT ON/OFF** on the remote control. Pressing it again re-activates the selected effect.
- To change the selected effect, repeat from step 2 above.

NOTES:

- When some Playback Special Effects are used, the Multi-Analyzer 4 and Multi-Analyzer 9 Snapshot modes (pg. 17) are not available.
- The effects that can be used during playback are Classic Film, Monotone, Sepia, Strobe and Video Echo. The effects work the same in playback as they did in recording. Refer to page 28 for more information.

Random Assemble Editing [R.A. Edit]

Create edited videos easily using your camcorder as the source player. You can select up to 8 "cuts" for automatic editing, in any order you like. R.A. Edit is more easily performed when the MBR (Multi-Brand Remote) is set to operate with your brand of VCR (see VCR CODE LIST), but can also be performed by operating the VCR manually.

Before operation, make sure the batteries are installed in the remote control (pg. 40).

SET REMOTE/VCR CODE

1 Turn off the power to the VCR and point the remote towards the VCR's infrared sensor. Then, referring to the VCR CODE LIST, press and hold **MBR SET**, and press button (A) and then (B). The code is automatically set once you release **MBR SET**, and the VCR's power comes on.

2 Make sure the VCR's power is on. Then, while holding **SHIFT**, press the button on the remote for the desired function. The functions the remote can control are PLAY, STOP, PAUSE, FF, REW and VCR REC STBY (you do not need to press **SHIFT** for this one).

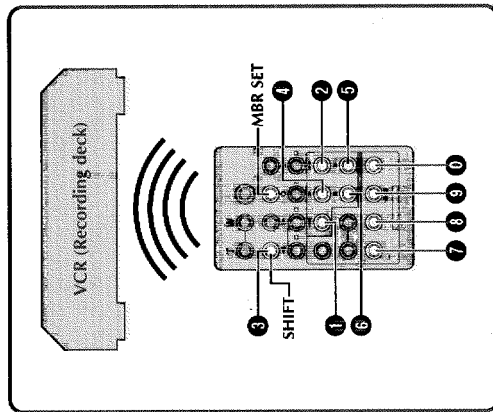
You are now ready to try **Random Assemble Editing**.

IMPORTANT

Although the MBR is compatible with JVC VCRs and those of many other makers, it may not work with yours or may offer limited functions.

NOTES:

- If the VCR's power does not come on in step 1, try another code from the VCR CODE LIST.
- Some brands of VCR do not come on automatically. In this case, turn the power on manually and try step 2.
- If the remote control is not able to control the VCR, use the controls on the VCR.
- When the remote control's batteries run out, the VCR brand you have set will be erased. In that case, replace the old battery with a new one to reset the VCR brand.



VCR CODE LIST

VCR BRAND NAME	BUTTONS (A) (B)	BUTTONS (A) (B)
GE	1 1 2 2 3 3 4 4	5 5 6 6 7 7 8 8
HITACHI	9 9 0 0	1 1 2 2
JVC A B C	3 3 4 4 5 5	6 6 7 7 8 8
MAGNAVOX	9 9 0 0	1 1 2 2
PHILIPS	3 3 4 4	5 5 6 6
NEC	7 7 8 8	9 9 0 0
SONY	1 1 2 2	3 3 4 4
TOSHIBA	5 5 6 6	7 7 8 8
ZENITH	9 9 0 0	1 1 2 2

MAKE CONNECTIONS

Also refer to pg. 34 and 35.

- 1 **A JVC VCR equipped with a remote pause connector . . .**
... connect the editing cable to the Remote PAUSE connector.
- 2 **A JVC VCR not equipped with a remote pause connector but equipped with an R.A. EDIT connector . . .**
... connect the editing cable to the R.A. EDIT connector.
- 3 **A VCR other than above . . .**
... connect the editing cable to the remote control's PAUSE IN connector.

2 Insert a recorded tape into the camcorder. Set the Power Switch to "PAUSE" while pressing down the Lock Button located on the switch.

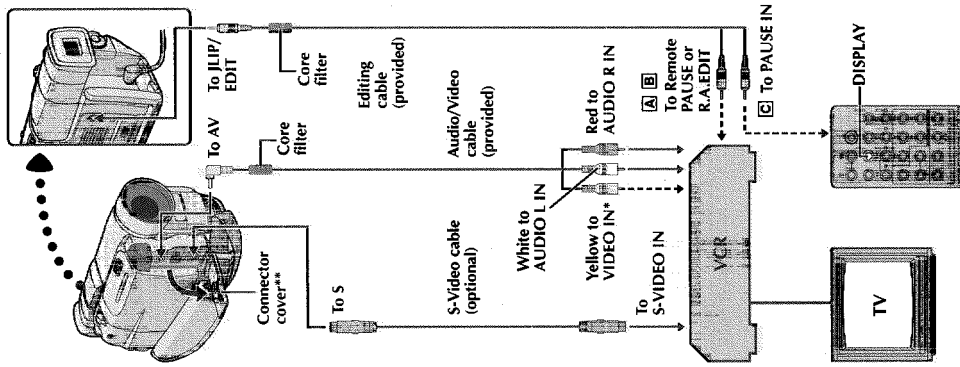
3 Turn the VCR power on, insert a recordable tape and engage the AUX mode (refer to the VCR's instructions).

NOTES:

- Before Random Assemble Editing, make sure the indications do not appear on the TV monitor. If they do, they will be recorded onto the new tape.

To choose whether or not the following displays appear on the connected TV . . .

- Date/Time
... set "DATE/TIME" to "ON" or "OFF" in the Menu Screen (pg. 32).
- Time Code
... set "TIME CODE" to "ON" or "OFF" in the Menu Screen (pg. 32).
- Playback Sound Mode, Tape Speed And Tape Running Displays
... set "ON SCREEN" to "LCD" or "SIMPLE" in the Menu Screen (pg. 32). Or, press **DISPLAY** on the remote control.
- Use the provided cables, making sure to connect the end with a core filter to the camcorder. The core filter reduces interference.
- When editing on a VCR equipped with a DV input connector, an optional DV cable can be connected instead of an S-Video cable and audio/video cable.



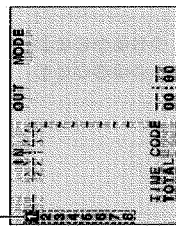
* Connect when an S-Video cable is not used.
** When connecting cables, open this cover.

ATTENTION FOR EDITING CABLE
Make sure you connect the end with the core filter (plug which has 3 rings around the pin) to the camcorder.

CONTINUED ON NEXT PAGE

SELECT SCENES

Program



Random Assemble Editing Menu

4 Point the remote control at the camcorder's remote sensor. Press **PLAY** (▶) and then press **R.A.EDIT ON/OFF** on the remote control. The Random Assemble Editing Menu appears.

5 If using a Fade/Wipe at the beginning of the scene, press **FADE/WIPE** on the remote control.

- Cycle through the effects by pressing repeatedly, and stop when the one you want is displayed.
- You cannot use a Picture Wipe/Dissolve at the beginning of Program 1.

6 At the beginning of the scene, press **EDIT IN/OUT** on the remote control. The Edit-In position appears in the Random Assemble Editing Menu.

7 At the end of the scene, press **EDIT IN/OUT**. The Edit-Out position appears in the Random Assemble Editing Menu.

8 If using a Fade/Wipe at the end of the scene, press **FADE/WIPE**.

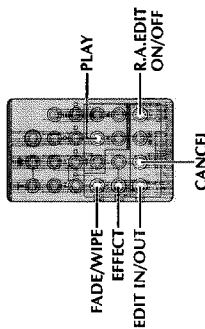
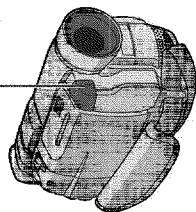
- Cycle through the effects by pressing repeatedly, and stop when the one you want is displayed.
- If you select a Fade/Wipe effect for an Edit-Out point, the effect is automatically applied to the following Edit-In point.
- You cannot use a Picture Wipe/Dissolve at the end of the last scene.
- When you use Fade/Wipe effects, that time is included in the total time (this does not apply to Picture Wipe/Dissolve).

9 If using Playback Special Effects, press **EFFECT** (pg. 43).

10 Repeat steps 6 through 9 to register additional scenes.

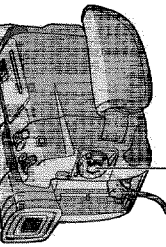
- To change previously registered points, press **CANCEL** on the remote control. The registered points disappear, one at a time, from the most recently registered point.
- If you are not using Fade/Wipe or Program AE with special effects, repeat steps 6 and 7 only.

Remote sensor

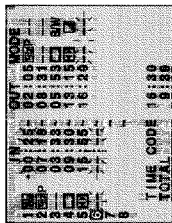
**NOTES:**

- When choosing a scene, set Edit-In and Edit-Out points so that there is a relatively large difference between them.
- If the search time for an in-point exceeds 5 minutes, the recording deck's Record-Standby mode will be canceled and editing will not take place.
- If there are blank portions before or after the Edit-In and Edit-Out points, a blue screen may be included in the edited version.
- Since time codes register time only as accurately as seconds, the time code total time may not match the total program time exactly.
- Turning off the camcorder's power erases all registered Edit-In and Edit-Out points.
- If you select Sepia or Monotone mode from Program AE with special effects, you cannot use the Dissolve or Black & White Fader. In this case the Dissolve or Black & White indicator begins blinking. Once the next Edit-In point is registered, the effect is turned off. To combine these effects, use Sepia or Monotone during recording, then use the Dissolve or Black & White Fader during Random Assemble Editing.
- It is not possible to use Fade/Wipe effects and Program AE with special effects during Random Assemble Editing using a DV cable.

AUTOMATIC EDITING TO VCR

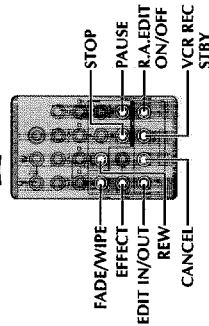
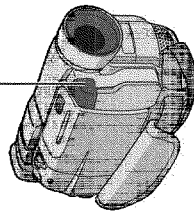


Recording Start/Stop Button



Random Assemble Editing Menu

Remote Sensor



11 Rewind the tape in the camcorder to the beginning of the scene you want to edit and press **PAUSE** (II).

12 Point the remote control towards the VCR's remote sensor and press **VCR REC STBY** (●II), or manually engage the VCR's Record-Pause mode.

13 Press the Recording Start/Stop Button on the camcorder. Editing proceeds as programmed, right through to the end of the last registered scene.

- Pressing **START/STOP** on the remote control does not start editing.
- When dubbing is complete, the camcorder enters the Pause mode, and the VCR enters its Record-Pause mode.
- If you do not register an Edit-Out point, the tape will be dubbed all the way to the end automatically.
- If you operate the camcorder during automatic editing, the VCR will enter its Record-Pause mode and automatic editing will stop.

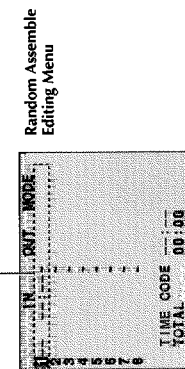
14 Engage the Stop modes for the camcorder and the VCR.

To make the R.A. Edit counter display disappear, press **R.A.EDIT ON/OFF** on the remote control.

NOTES:

- Pressing **R.A.EDIT ON/OFF** on the remote control clears all settings registered during Random Assemble Editing.
- When the editing cable is connected to the remote control's Pause In connector during dubbing, make sure the remote control is pointed at the VCR's sensor, and the path between the two is unobstructed.
- Random Assemble Editing may not function properly when using a tape including several duplicated time codes (pg. 19).

For More Accurate Editing



Random Assemble Editing Menu

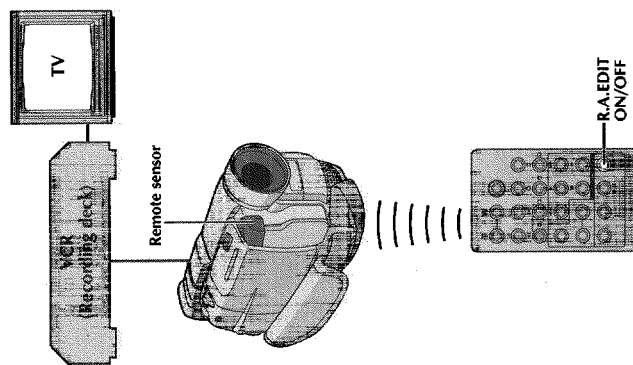
DIAGNOSING VCR/CAMCORDER TIMING

1 Play back the tape in the camcorder, then point the remote control at the camcorder's remote sensor and press **R.A.EDIT ON/OFF**. The Random Assemble Editing Menu appears.

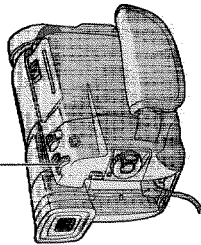
2 Perform Random Assemble Editing on Program 1 only. In order to check VCR and camcorder timing, select the beginning of a scene transition as your Edit-In point.

3 Play back the dubbed scene.

- If any images from the scene prior to the transition you chose for your Edit-In point were recorded, that means your VCR moves too quickly from Record-Pause to Record mode.
- If the scene you tried to dub starts in progress, the VCR is slow to start recording.



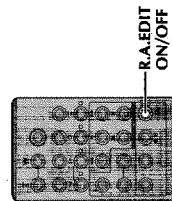
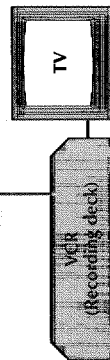
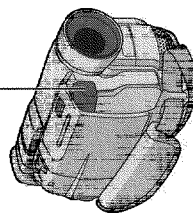
MENU/BRIGHT Dial



Display



Remote sensor



ADJUSTMENT OF VCR/CAMCORDER TIMING

4 Point the remote control at the camcorder's remote sensor and press **R.A.EDIT ON/OFF** to make the Random Assemble Editing menu disappear, then press the **MENU/BRIGHT** wheel. The Menu Screen appears.

5 Rotate the **MENU/BRIGHT** wheel to select "**03**" and press it. "VIDEO MENU" appears. Then, rotate it to "SYNCHRO" and press it. The value for "SYNCHRO" is highlighted.

6 Based on the diagnostics performed (pg. 48), you can now advance the VCR's record timing by rotating the **MENU/BRIGHT** wheel towards "+". You can also delay the VCR's record timing by rotating the **MENU/BRIGHT** wheel towards "-". The adjustment range is from -1.3 to +1.3 seconds, in 0.1-second increments. Press the **MENU/BRIGHT** wheel to finish the setting.

7 Rotate the **MENU/BRIGHT** wheel to select "**◀RETURN**" and press it twice. Now perform Random Assemble Editing beginning with step 4 on page 46.

NOTES:

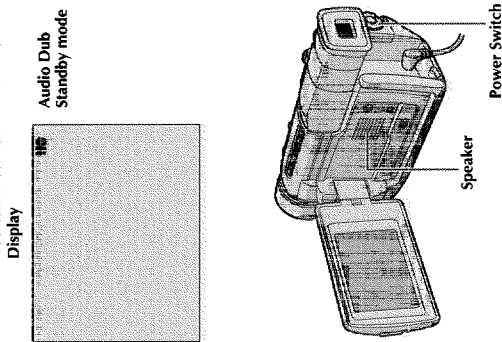
- Before performing actual Random Assemble Editing, do a few Random Assemble Editing trial runs to check whether the value you have input is appropriate or not, and make adjustments accordingly.
- Depending on the recorder, there may be situations where the timing difference cannot be fully corrected.

Audio Dubbing

The audio track can be customized only when recorded in the 12-bit mode (☞ pg. 23).

NOTES:

- Audio Dubbing is not possible on a tape recorded in 16-bit audio, on a tape recorded in the LP mode or on a blank portion of a tape.
- To perform Audio Dubbing while watching on the television, make connections (☞ pg. 34).



- 1 Play back the tape to locate the point where editing will start, then press **PAUSE (II)**.
- 2 While holding **A.DUB (Ⓢ)** on the remote control, press **PAUSE (II)**. "A.DUB" appears.
- 3 Press **PLAY (▶)**, then begin "narrating".
• To pause dubbing, press **PAUSE (II)**.
- 4 To end Audio Dubbing, press **PAUSE (II)**, then **STOP (■)**.

To hear the dubbed sound during playback ...
... set "12BIT MODE" to "SOUND 2" or "MIX" in the Menu Screen (☞ pg. 32, 33).

NOTES:

- Sound is not heard from the speaker during Audio Dubbing.
- When editing onto a tape that was recorded at 12-bit, the old and new soundtracks are recorded separately.
- If you dub onto a blank space on the tape, the sound may be disrupted. Make sure you only edit recorded areas.
- If feedback or howling occurs during TV playback, move the camcorder's microphone away from the TV, or turn down the TV's volume.
- If you change from 12-bit to 16-bit in mid-recording and then use the tape for Audio Dubbing, it is not effective from the point where 16-bit recording began.
- During Audio Dubbing, when the tape moves to scenes recorded in the LP mode, scenes recorded in 16-bit audio or a blank portion, Audio Dubbing stops (☞ pg. 61).

Insert Editing

You can record a new scene into a previously recorded tape, replacing a section of the original recording with minimal picture distortion at the in and outpoints. The original audio remains unchanged.

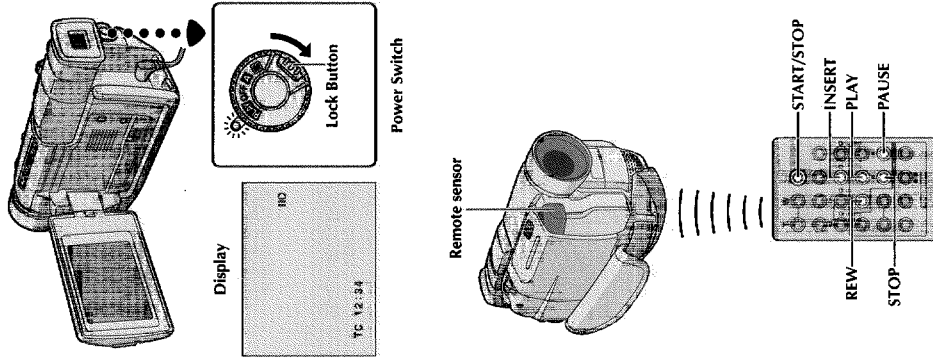
NOTES:

- Before performing the following steps, make sure that "TIME CODE" is set to "ON" in the Menu Screen (☞ pg. 32).
- Insert Editing is not possible on a tape recorded in the LP mode or on a blank portion of a tape.
- To perform Insert Editing while watching in the television, make connections (☞ pg. 34).

- 1 Play back the tape, locate the Edit-Out point and press **PAUSE (II)**. Confirm the time code at this point (☞ pg. 33).
- 2 Press **REW (◀)** until the Edit-In point is located, then press **PAUSE (II)**.
- 3 Press and hold **INSERT (Ⓢ)** on the remote control, then press **PAUSE (II)**. "II" and the Time Code (min.:sec.) appear and the camcorder enters Insert-Pause mode.
- 4 Press **START/STOP** to begin editing.
• Confirm the insert at the time code you checked in step 1.
• To pause editing, press **START/STOP**. Press it again to resume editing.
- 5 To end Insert Editing, press **START/STOP**, then **STOP (■)**.

NOTES:

- Program AE with special effects (☞ pg. 28) can be used to splice up the scenes being edited during Insert Editing.
- During Insert Editing, the date and time information changes.
- If you perform Insert Editing onto a blank space on the tape, the audio and video may be disrupted. Make sure you only edit recorded areas.
- During Insert Editing, when the tape moves to scenes recorded in the LP mode or a blank portion, Insert Editing stops (☞ pg. 61).



If, after following the steps in the chart below, the problem still exists, please consult your nearest JVC dealer.

The camcorder is a microcomputer-controlled device. External noise and interference (from a TV, a radio, etc.) might prevent it from functioning properly. In such cases, first disconnect its power supply unit (battery pack, AC Power Adapter/Battery Charger, etc.) and wait a few minutes; and then re-connect it and proceed as usual from the beginning.			
SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION	
1. No power is supplied.	1. • The power is not connected properly. • The battery is dead.	1. • Connect the AC Power Adapter/Charger securely (ⓘ pg. 9). • Replace the dead battery with a fully charged one (ⓘ pg. 8, 9).	
2. "SET DATE/TIME!" appears.	2. • The date/time is not set. • The built-in clock battery has run out and the previously set date/time has been erased.	2. • Set the date/time (ⓘ pg. 11). • Consult your nearest JVC dealer for replacement.	
3. Recording cannot be performed.	3. • The tape's erase protection tab is set to "SAVE". • The Power Switch is set to "PAUSE" or "OFF". • "TAPE END" appears. • The cassette holder cover is open.	3. • Set the tape's erase protection tab to "REC" (ⓘ pg. 12). • Set the Power Switch to "A" or "Ⓜ" (ⓘ pg. 15). • Replace with new cassette (ⓘ pg. 12). • Close the cassette holder cover.	
4. There is no picture.	4. • The camcorder is not getting power, or some other malfunction exists.	4. • Turn the camcorder's power off and on again (ⓘ pg. 14).	
5. Some functions are not available using the MENU/BRIGHT wheel.	5. • The Power Switch is set to "A".	5. • Set the Power Switch to "Ⓜ" (ⓘ pg. 15).	
6. The focus does not adjust automatically.	6. • Focus is set to the Manual mode. • The recording was done in a dark place, or the contrast was low. • The lens is dirty or covered with condensation.	6. • Set Focus to the Auto mode (ⓘ pg. 21). • Clean the lens and check the focus again (ⓘ pg. 58).	
7. The cassette will not load properly.	7. • The cassette is in the wrong position. • The battery's charge is low.	7. • Set it in the right position (ⓘ pg. 12). • Install a fully charged battery (ⓘ pg. 8, 9).	
8. Snapshot mode cannot be used.	8. • The Squeeze mode is selected.	8. • Disengage the Squeeze mode (ⓘ pg. 24).	

SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
9. The color of Snapshot looks strange.	9. • The light source or the subject does not include white. Or there are various different light sources behind the subject.	9. • Find a white subject and compose your shot so that it also appears in the frame (ⓘ pg. 16).
10. The image taken using Snapshot is too dark.	10. • Shooting was performed under backlit conditions.	10. • Press the BACKLIGHT Button (ⓘ pg. 29).
11. Digital Zoom does not work.	11. • 10X optical zoom is selected. • "PAUSE/EFFECT" is set to "VIDEO ECHO" in the Menu Screen. • Picture Wipe or Dissolve are being used in a scene transition.	11. • Set "ZOOM" to "40X" or "250X" in the Menu Screen (ⓘ pg. 23). • Disengage the "VIDEO ECHO" mode (ⓘ pg. 18, 28). • Wait until the Picture Wipe or Dissolve effects are completed (ⓘ pg. 18, 26).
12. Program AE with special effects and Fade/Wipe Effects do not work.	12. • The Power Switch is set to "A".	12. • Set the Power Switch to "Ⓜ" (ⓘ pg. 26, 28).
13. The Black & White Fader does not work.	13. • The Sepia or Monotone mode is activated.	13. • Turn off Sepia and Monotone (ⓘ pg. 26, 28).
14. The Dissolve function does not work.	14. • The Sepia, Monotone or Slow Shutter mode of Program AE with special effects is activated. • "WIDE MODE" is set to "SQUEEZE" in the Menu Screen. • The previously selected mode of Program AE with special effects was changed after the last selected scene for editing was registered.	14. • Turn off Sepia, Monotone or Slow Shutter before adding Dissolve to a scene transition (ⓘ pg. 26, 28). • Set "WIDE MODE" to "CINEMA" or "OFF" mode (ⓘ pg. 24). • Make sure you have selected the mode of Program AE with special effects you want before starting editing (ⓘ pg. 26, 28).
15. The Picture Wipe and Dissolve functions do not work.	15. • The last selected editing scene is ending. • At the end of the last selected scene for editing, the Power Switch was set to "OFF". • The power is off.	15. • Select Picture Wipe or Dissolve before beginning recording. The effects are then automatically activated (ⓘ pg. 26). • Do not turn off the camcorder's power after setting Edit-In and Edit-Out points, as they will all be erased (ⓘ pg. 26). • The camcorder automatically shuts off after 5 minutes have elapsed in the Record-Standby mode. Make sure you continue operations within 5 minutes after engaging Record-Standby mode (ⓘ pg. 26).

CONTINUED ON NEXT PAGE

SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
16. The picture wipe function does not work.	16. • The Slow Shutter mode is activated. • "WIDE MODE" is not set to "OFF".	16. • Disengage the Slow Shutter mode or set "WIDE MODE" to "OFF" before preparing to use the Picture Wipe (ⓘ pg. 24, 26, 28).
17. Scene transition does not go as expected.	17. • When using "Picture Wipe/ Dissolve" (ⓘ pg. 26), there is a delay of a fraction of a second between the previous record stop-point and the Dissolve start-point. This is normal, but this slight delay becomes especially noticeable when shooting fast-moving subject or during rapid panning.	17. _____
18. The Video Echo mode does not work.	18. • The Picture Wipe or Dissolve functions are in use. • "WIDE MODE" is set to "SQUEEZE" in the Menu Screen. • A Fade-In or Fade-Out is in progress.	18. • Set "WIDE MODE" to "CINEMA" or "OFF" mode (ⓘ pg. 24). • Do not try to use the Video Echo mode during a Fade-In or Fade-Out (ⓘ pg. 26, 28).
19. Even when Slow Shutter is not selected, the image looks like it is activated.	19. • When shooting in the dark, the unit becomes highly sensitive to light and the image takes on an effect similar to Slow Shutter.	19. • If you want the lighting to look more natural, set GAIN UP to "AGC" or "OFF" in the Menu Screen (ⓘ pg. 23).
20. There is no strobe when the Classic Film or Strobe mode is activated.	20. • The Picture Wipe or Dissolve function is in use.	20. • Do not try to use the Classic Film or Strobe mode during a scene transition (ⓘ pg. 26, 28).
21. White Balance cannot be activated.	21. • The Sepia or Monotone mode is activated.	21. • Turn off Sepia or Monotone before setting White Balance (ⓘ pg. 28, 30).
22. When shooting a subject illuminated by bright light, vertical lines appear.	22. • This is a result of exceedingly high contrast, and is not a malfunction.	22. _____
23. When the screen is under direct sunlight during shooting, the screen becomes red or black for an instant.	23. • This is not a malfunction.	23. _____

SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
24. During recording, the date/time does not appear.	24. • "DATE/TIME" is set to "OFF" in the Menu Screen. • Self-Recording is performed.	24. • Set "DATE/TIME" to "ON" in the Menu Screen (ⓘ pg. 25). • During Self-Recording, the date/time does not appear (ⓘ pg. 15).
25. The indicators and messages do not appear.	25. • "ON SCREEN" is set to "SIMPLE" or "TIME CODE" is set to "OFF" in the Menu Screen.	25. • Set "ON SCREEN" to "LCD" or "LCD/TV" and set "TIME CODE" to "ON" in the Menu Screen (ⓘ pg. 25, 32).
26. Images on the LCD monitor appear dark or whitish.	26. • In places subject to low temperature, images become dark due to the characteristics of the LCD monitor. When this happens, the displayed colors differ from those that are actually recorded. This is not a defect of the camcorder. • When the LCD monitor's fluorescent light reaches the end of its service life, images on the LCD monitor become dark. Consult your nearest JVC dealer.	26. • Adjust the brightness and angle of the LCD monitor (ⓘ pg. 14, 15).
27. The rear of the LCD monitor is hot.	27. • The light used to illuminate the LCD monitor causes it to become hot.	27. • Close the LCD monitor to turn it off or set the Power Switch to "OFF", and let the unit cool down.
28. The indicators and the image color on the LCD monitor are not clear.	28. • This may occur when the surface or the edge of the LCD monitor is pressed.	28. _____
29. The LCD monitor or viewfinder indications blink.	29. • Certain Fade/Wipe effects, certain modes of Program AE with special effects, "DIS" and other functions that cannot be used together are selected at the same time.	29. • Re-read the sections covering Fade/Wipe effects, Program AE with special effects and "DIS" (ⓘ pg. 24, 26 - 28).

CONTINUED ON NEXT PAGE

SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
30. Colored bright spots appear all over the LCD monitor or the viewfinder.	30. • The LCD monitor and the viewfinder are made with high-precision technology. However, black spots or bright spots of light (red, green or blue) may appear constantly on the LCD monitor or the viewfinder. These spots are not recorded on the tape. This is not due to any defect of the unit. (Effective dots: more than 99.99 %)	30. _____
31. During recording, sound cannot be heard.	31. • This is normal.	31. _____
32. Play, Rewind and Fast-Forward functions do not work.	32. • The Power Switch is not set to "PLAY".	32. • Set the Power Switch to "PLAY" (ⓘ pg. 31).
33. The tape is moving, but there is no picture.	33. • Your TV has AV input terminals, but is not set to its VIDEO mode. • The cassette holder cover is open.	33. • Set the TV to the mode or channel appropriate for video playback (ⓘ pg. 34, 35). • Close the cassette holder cover (ⓘ pg. 12).
34. The LCD monitor image is distorted.	34. • During playback of the unrecorded portion, High-speed Search and still playback, LCD monitor indications appear distorted. This is not a defect.	34. _____
35. Images on the LCD monitor are jittery.	35. • The speaker volume is too great.	35. • Turn the speaker volume down (ⓘ pg. 31).
36. Blocks of noise appear during playback, or there is no playback picture and the screen becomes blue.	36. _____	36. • Clean the video heads with an optional cleaning cassette (ⓘ pg. 65).
37. The LCD monitor, the viewfinder and the lens have become dirty (ex. fingerprints).	37. _____	37. • Wipe them gently with soft cloth. Wiping strongly can cause damage (ⓘ pg. 58).
38. An unusual mark appears.	38. _____	38. • Check the section of the manual that explains LCD monitor/viewfinder indications (ⓘ pg. 59 – 61).

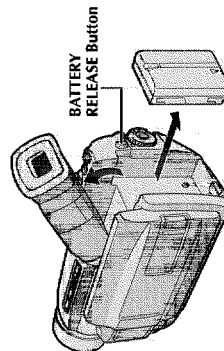
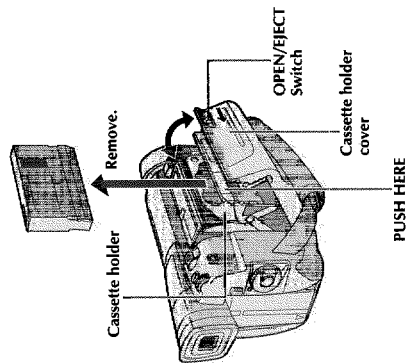
SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
39. An error indication (E01 — E06) appears.	39. • A malfunction of some kind has occurred. In this case the camcorder's functions become unusable.	39. • Remove the power supply (battery pack, etc.) and wait a few minutes for the indication to clear. When it does, you can resume using the camcorder. If the indication remains even though you repeat the above two or three times, please consult your nearest JVC dealer.
40. The charger indicator on the AC Power Adapter/Charger does not light.	40. • The temperature of the battery is extremely high/low. • Charging is difficult in places subject to extremely high/low temperatures.	40. • To protect the battery, it is recommended to charge it in places with a temperature of 10°C to 35°C (50°F to 95°F) (ⓘ pg. 64).
41. Picture does not appear on the LCD monitor.	41. • The lens cap is attached. • The LCD monitor's brightness setting is too dark.	41. • Remove the lens cap (ⓘ pg. 14). • Adjust the brightness of the LCD monitor (ⓘ pg. 14). • If the monitor is tilted upward 180 degrees, open the monitor fully (ⓘ pg. 15).
42. When the image is printed from the printer, a black bar appears at the bottom of the screen.	42. • This is not a malfunction.	42. • By recording with "DIS" activated (ⓘ pg. 24) this can be avoided.
43. When the camcorder is connected via the DV connector, the camcorder does not operate.	43. • The DV cable was plugged/unplugged with power turned on.	43. • Turn the camcorder's power off and on again, then operate it.

1 Turn off the camcorder.

2 Slide **OPEN/EJECT** in the direction of the arrow, then pull the cassette holder cover open until it locks. The cassette holder opens automatically. Remove the cassette.

3 Press "PUSH HERE" to close the cassette holder. Once the cassette holder is closed, it recedes automatically. Wait until it recedes completely before closing the cassette holder cover.

4 Press **BATTERY RELEASE** and remove the battery pack.

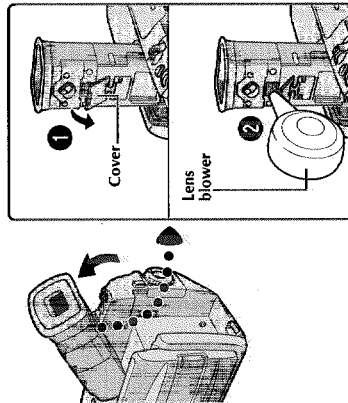


Cleaning The Camcorder

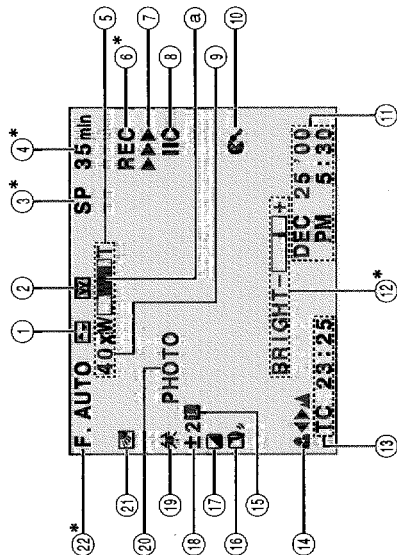
- 1 To clean the exterior, wipe gently with a soft cloth. Put the cloth in diluted mild soap and wring it well to wipe off heavy dirt. Then wipe again with a dry cloth.
- 2 Press **PUSH OPEN** and open the LCD monitor. Wipe gently with a soft cloth. Be careful not to damage the monitor. Close the LCD monitor.
- 3 To clean the lens, blow it with a blower brush, then wipe gently with lens cleaning paper.
- 4 To clean the viewfinder, raise it to the vertical position. Carefully open the cover on the bottom of the viewfinder ①.
- 5 Insert a lens blower or soft cloth into the gap at the bottom of the viewfinder and clean the interior of the viewfinder with it ②.
- 6 Close the cover. Tilt the viewfinder back to the horizontal position.

NOTES:

- Avoid using strong cleaning agents such as benzine or alcohol.
- Cleaning should be done only after the battery pack has been removed or other power units have been disconnected.
- Mold may form if the lens is left dirty.
- When using a cleaner or chemically treated cloth refer to the cautions of each product.



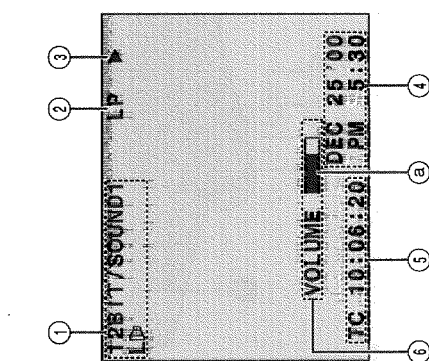
LCD Monitor/Viewfinder Indications During Recording



- ① Displays the selected Fade/Wipe effect. (☞ pg. 26, 27)
- ② Appears when in the Squeeze or Cinema mode. (☞ pg. 24)
- ③* Displays the recording mode (SP or LP). (☞ pg. 13)
- ④* Displays the tape remaining time. (☞ pg. 14)
- ⑤ Appears during zooming.
- ⑥ Zoom level indicator
- ⑥* "REC" appears during recording.
- "PAUSE" appears during Record-Standby mode. (☞ pg. 18)
- ⑦ Appears while the tape is running. (☞ pg. 14)
- ⑧ Appears when the Insert Editing (I) or Insert Editing Pause (IIC) mode is engaged. (☞ pg. 51)
- ⑨ Approximate zoom ratio: Appears during zooming. (☞ pg. 18)
- A*: Appears when "GAIN UP" is set to "AUTO" and the shutter speed is automatically adjusted. (☞ pg. 23)
- ⑩ Appears when the wind cut mode is engaged to cut down on noise created by wind. (☞ pg. 25)
- ⑪ Displays the date/time. (☞ pg. 11)
- ⑫* BRIGHT : Displays the brightness of the LCD monitor. (☞ pg. 14)
- SOUND : Displays the sound mode for approx. 5 seconds after turning on the camcorder. (☞ pg. 23)
- ⑬ Displays the Time Code. (☞ pg. 19, 25)
- ⑭ Appears when the focus is adjusted manually. (☞ pg. 21)
- ⑮ Appears when the iris is locked. (☞ pg. 29)
- ⑯ Appears when Digital Image Stabilizer ("DIS") is engaged. (☞ pg. 24)
- ⑰ Displays the selected Program AE with special effects. (☞ pg. 28)
- ⑱ Appears when the exposure is adjusted. (☞ pg. 29)
- ⑲ Appears when the white balance is adjusted. (☞ pg. 30)
- ⑳ Appears when taking a Snapshot. (☞ pg. 16, 17)
- ㉑ Appears when backlight compensation is used. (☞ pg. 29)
- ㉒* Appears when the power switch is set to "V". (☞ pg. 15)

* Setting "ON SCREEN" to "SIMPLE" in the Menu Screen removes indications marked with * from the screen (☞ pg. 25, 32).

LCD Monitor/Viewfinder Indications During Playback



- ① Displays the sound mode. (ⓘ pg. 32, 33)
- ② Displays the tape speed. (ⓘ pg. 13)
- ③ Appears while a tape is running.
 - ▶ : Playback
 - ▶▶ : Fast-Forward/Shuttle search
 - ◀◀ : Rewind/Shuttle search
 - ⏏ : Pause
 - ⏏▶ : Forward slow-motion
 - ◀⏏ : Reverse slow-motion
 - ⏏⏏ : Audio Dubbing
 - ⏏⏏ : Audio Dubbing Pause
- ④ Displays the date/time. (ⓘ pg. 32, 33)
- ⑤ Displays the time code. (ⓘ pg. 32, 33)
- ⑥ • BRIGHT : Displays the brightness of the LCD monitor. (ⓘ pg. 14)
- SOUND : Displays the speaker volume. (ⓘ pg. 31)
- ⑥ The level indicator moves.

Warning Indications

Indications	Function
	Displays the battery remaining power. Remaining power level: high — — — — — Remaining power level: exhausted — As the battery power comes close to nil, the battery indicator blinks. When the battery power is exhausted, power turns off automatically.
	Appears when no tape is loaded. (ⓘ pg. 12)
CHECK TAPE'S ERASE PROTECTION SWITCH	Appears when the erase protection tab is set to "SAVE" while the Power Switch is set to "A" or "V". (ⓘ pg. 12)
HEAD CLEANING REQUIRED USE CLEANING CASSETTE	Appears if dirt is detected on the heads. Use an optional cleaning cassette. (ⓘ pg. 65)
CONDENSATION, OPERATION PAUSED PLEASE WAIT	Appears if condensation occurs. When this indication is displayed, wait more than 1 hour until condensation disappears.

Indications	Function
TAPE!	Appears if a tape is not loaded when the Recording Start/Stop Button or SHAPSHOT Button is pressed while the Power Switch is set to "A" or "V".
TAPE END	Appears when the tape ends during recording or playback. (ⓘ pg. 15)
DIFFERENT FORMATTED TAPE	Appears if a tape in another format is loaded.
SET DATE/TIME!	• Appears when the date/time is not set. • Appears when the built-in clock battery runs out and the previously set date/time is erased. Consult your nearest JVC dealer for replacement.
LENS CAP	Appears for 5 seconds after power is turned on if the lens cap is attached.
A. DUB ERROR!	• Appears if Audio Dubbing is attempted on a blank portion of a tape.
A. DUB ERROR! <CANNOT DUB ON AN LP RECORDED TAPE> <CANNOT DUB ON A 16BIT RECORDING> <CHECK TAPE'S ERASE PROTECTION SWITCH>	• Appears if Audio Dubbing is attempted on a tape recorded in the LP mode. • Appears if Audio Dubbing is attempted on a tape recorded in 16-bit audio. • Appears if A. DUB (Ⓢ) on the remote control is pressed when the erase protection tab is set to "SAVE".
INSERT ERROR !	• Appears if Insert Editing is attempted on a blank portion of a tape.
INSERT ERROR ! <CANNOT EDIT ON AN LP RECORDED TAPE> <CHECK TAPE'S ERASE PROTECTION SWITCH>	• Appears if Insert Editing is attempted on a tape recorded in the LP mode. • Appears if INSERT (Ⓢ) on the remote control is pressed when the erase protection tab is set to "SAVE".
COPYING FAILED	Appears if dubbing of copyguarded signals is attempted while this camcorder is being used as a recorder.
E01 — E06 UNIT IN SAFEGUARD MODE REMOVE AND REATTACH BATTERY	The error indications (E01 — E06) show what type of malfunction has occurred. When an error indication appears, the camcorder turns off automatically. Remove the power supply (battery, etc.) and wait a few minutes for the indication to clear. When it does, you can resume using the camcorder. If the indication remains, consult your nearest JVC dealer.

Controls

- ① Monitor Open Button pg. 14
 [PUSH OPEN] pg. 10
 ② Dropter Adjustment Control pg. 10
 ③ Battery Release Button [BATTERY RELEASE] pg. 9
 ④ • MENU Wheel [+ , - , PUSH] pg. 22
 • LCD Monitor BRIGHT (Brightness) Control [+ , -] pg. 14
 ⑤ Snapshot Button [SNAPSHOT] pg. 16, 17
 ⑥ • Power Zoom Lever [TM] pg. 18
 • Speaker Volume Control [VOL.] pg. 31
 ⑦ Snapshot Mode Button [MODE] pg. 16
 ⑧ OPEN/EJECT Switch pg. 12
 ⑨ Stop Button [■] pg. 31
 ⑩ • Rewind Button [◀◀] pg. 31
 • BACKLIGHT Button pg. 29
 ⑪ Play/Pause Button [▶/||] pg. 31
 ⑫ • Fast-Forward Button [▶▶] pg. 31
 • FOCUS Button pg. 21
 ⑬ Power Switch [A, M, P, OFF] pg. 15
 ⑭ Recording Start/Stop Button pg. 14
 ⑮ Lock Button pg. 14
 ⑯ Video Light Switch [LIGHT OFF/AUTO/ON] pg. 20

Connectors

To connect cables to the following connectors ⑰ and ⑱, open the LCD monitor.

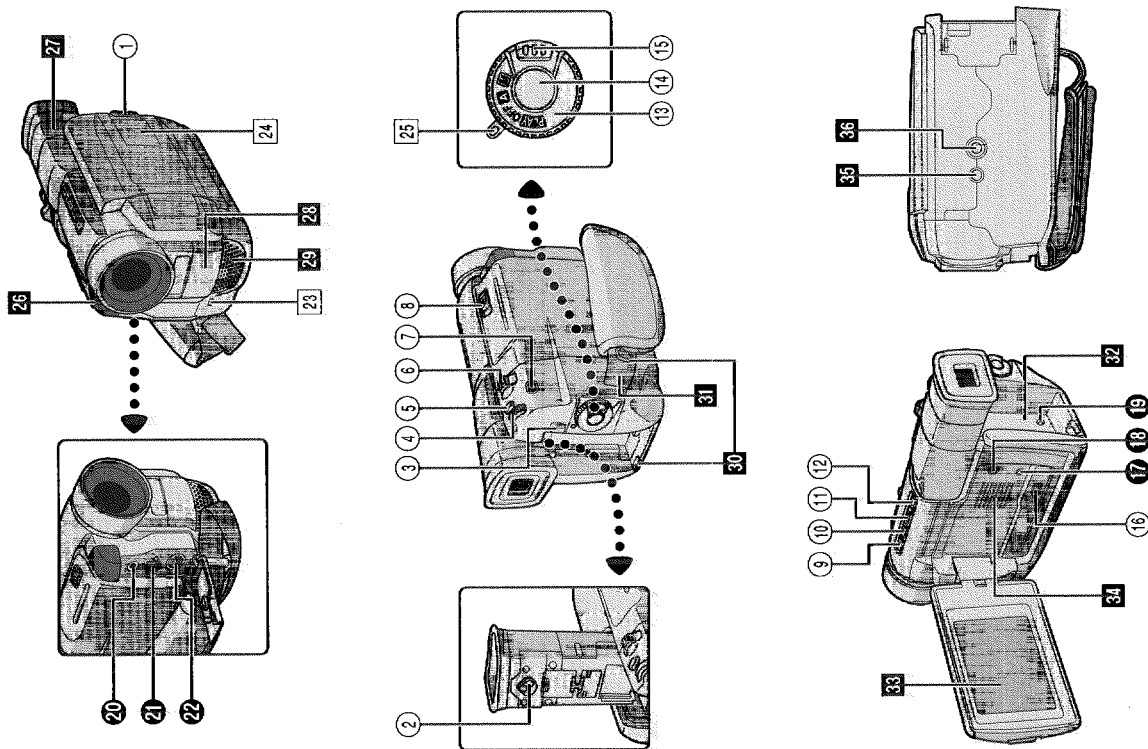
- ⑰ PC (DIGITAL PHOTO) Connector pg. 36
 ⑱ Terminal/Edit Connector [LIP (Joint Level Interface Protocol)/EDIT] pg. 45
 • Connect the editing cable when performing Random Assemble Editing.
 • Connect to a JLP-compatible camcorder or VCR to control it from the computer using the provided Software.
 ⑲ DC Input Connector pg. 9
 The connectors ⑲ to ⑳ are located beneath a cover.
 ⑳ Audio/Video Output Connector [AV] pg. 34, 38, 45
 ㉑ Digital Video Connector [DV IN/OUT (i.Link*)] pg. 36, 37, 39
 * i.Link refers to the IEEE1394-1995 industry specification and extensions thereof. The i.Link logo is used for products compliant with the i.Link standard.
 ㉒ S-Video Output Connector [S] pg. 34, 38, 45

Indicators

- ㉓ Tally Lamp pg. 14
 ㉔ Side LED Indicator (GR-DVL500 only) pg. 24
 ㉕ Power Lamp pg. 14

Other Parts

- ㉖ • Remote Sensor pg. 40
 • Camera Sensor
 Be careful not to cover this area, a sensor necessary for shooting is built-in here.
 ㉗ Viewfinder pg. 10
 ㉘ Video Light pg. 20
 ㉙ Stereo Microphone pg. 50
 ㉚ Shoulder Strap Eyelets pg. 10
 ㉛ Grip Strap pg. 10
 ㉜ Battery Pack Mount pg. 9
 ㉝ LCD Monitor pg. 14, 15
 ㉞ Speaker pg. 31
 ㉟ Stud Hole pg. 10
 ㊱ Tripod Mounting Socket pg. 10



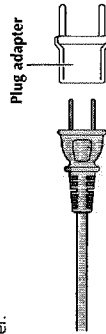
When using the AC Power Adapter/Charger in areas other than the USA

- The provided AC Power Adapter/Charger features automatic voltage selection in the AC range from 110 V to 240 V.

USING HOUSEHOLD AC PLUG ADAPTER

In case of connecting the unit's power cord to an AC wall outlet other than American National Standard C73 series type use an AC plug adapter, called a "Siemens Plug", as shown.

For this AC plug adapter, consult your nearest JVC dealer.



Video Light

DANGER

- The video light can become extremely hot. Do not touch it either while in operation or soon after turning it off, otherwise serious injury may result.
- Do not place the camcorder into the carrying case immediately after using the video light, since it remains extremely hot for some time.
- When operating, keep a distance of about 30 cm (11-13/16") between the video light and people or objects.
- Do not use near flammable or explosive materials.
- It is recommended that you consult your nearest JVC dealer for replacing the video light.



General Battery Precautions

If the remote control is not functioning even if it is being operated correctly, the batteries are exhausted. Replace them with fresh ones.

Use only the following batteries: AAA (R03) size x 2

Please make note of the following rules for battery use. When misused, the batteries can leak or explode.

1. When replacing batteries, refer to page 40.
2. Do not use any different size of batteries from those specified.
3. Be sure to install batteries in the correct direction.
4. Do not use rechargeable batteries.
5. Do not expose the batteries to excessive heat as they can leak or explode.
6. Do not dispose of the batteries in a fire.
7. Remove the batteries from the unit if it is to be stored for an extended period to avoid battery leakage which can cause malfunctions.

Cassettes

To properly use and store your cassettes, be sure to read the following cautions:

1. **During use . . .**
 - make sure the cassette bears the Mini DV mark.
 - be aware that recording onto prerecorded tapes automatically erases the previously recorded video and audio signals.
 - make sure the cassette is positioned properly when inserting.
 - do not load and unload the cassette repeatedly without allowing the tape to run at all. This slackens the tape and can result in damage to the tape to fingerprints and dust.
2. **Store cassettes . . .**
 - away from heaters or other heat sources.
 - out of direct sunlight.
 - where they won't be subject to unnecessary shock or vibration.
 - where they won't be exposed to strong magnetic fields (such as those generated by motors, transformers or magnets).
 - vertically, in their original cases.

LCD Monitor

1. **To prevent damage to the LCD monitor, DO NOT . . .**
 - push it strongly or apply any shocks.
 - place the camcorder with the LCD monitor on the bottom.

2. **To prolong service life . . .**
 - avoid rubbing it with coarse cloth.

3. **Be aware of the following phenomena for LCD monitor use.**

- These are not malfunctions:**
- While using the camcorder, the surface around the LCD monitor and/or the back of the LCD monitor may heat up.
 - If you leave power on for a long time, the surface around the LCD monitor becomes hot.

Main Unit

1. **For safety, DO NOT . . .**
 - open the camcorder's chassis.
 - disassemble or modify the unit.
 - short-circuit the terminals of the battery pack.
 - Keep it away from metallic objects when not in use.
 - allow inflammables, water or metallic objects to enter the unit.
 - remove the battery pack or disconnect the power supply while the power is on.
 - leave the battery pack attached when the camcorder is not in use.

2. Avoid using the unit . . .

- in places subject to excessive humidity or dust.
- in places subject to soot or steam such as near a cooking stove.
- in places subject to excessive shock or vibration.
- near a television set.
- near appliances generating strong magnetic or electric fields (speakers, broadcasting antennas, etc.).
- in places subject to extremely high (over 40°C or 104°F) or extremely low (under 0°C or 32°F) temperatures.

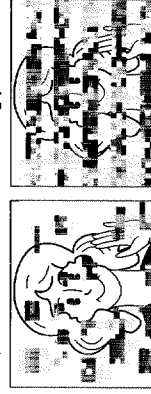
3. DO NOT leave the unit . . .

- in places of over 50°C (122°F).
- in places where humidity is extremely low (below 35%) or extremely high (above 80%).
- in direct sunlight.
- in a closed car in summer.
- near a heater.

4. To protect the unit, DO NOT . . .

- allow it to become wet.
- drop the unit or strike it against hard objects.
- subject it to shock or excessive vibration during transportation.
- keep the lens directed at extremely bright objects for long periods.
- expose the lens to direct sunlight.
- carry it by holding the LCD monitor or the viewfinder.
- swing it excessively when using the shoulder strap or the grip.

5. Dirty heads can cause the following problems:



- No picture during playback.
- Blocks of noise appear during playback.
- During recording, the Head Clog Warning indicator "H" appears.

In such cases, use an optional cleaning cassette. Insert it and play back. If the cassette is used more than once consecutively, damage to the video heads may result. After the camcorder plays back for about 20 seconds, it stops automatically. Also refer to the cleaning cassette's instructions.

If, after using the cleaning cassette, the problems still exist, consult your nearest JVC dealer. Mechanical moving parts used to move the video heads and video tape tend to become dirty and worn out over time. In order to maintain a clear picture at all times, periodic check-ups are recommended after using the unit for about 1,000 hours. For periodic check-ups please consult your nearest JVC dealer.

How To Handle A CD-ROM

- Take care not to soil or scratch the mirror surface (opposite to the printed surface). Do not write anything or put a sticker on either the front or back surface. If the CD-ROM gets dirty, gently wipe it with a soft cloth outward from the center hole using a circular motion.
- Do not use conventional disc cleaners or cleaning spray.
- Do not bend the CD-ROM or touch its mirror surface.
- Do not store your CD-ROM in a dusty, hot or humid environment. Keep it away from direct sunlight.

About moisture condensation . . .

- You have observed that pouring a cold liquid into a glass will cause drops of water to form on the glass' outer surface. This same phenomenon occurs on the head drum of a camcorder when it is moved from a cool place to a warm place, after heating a cold room, under extremely humid conditions or in a place directly subjected to the cool air from an air conditioner.
- Moisture on the head drum can cause severe damage to the video tape, and can lead to internal damage to the camcorder itself.

Serious malfunctioning

If malfunctioning occurs, stop using the unit immediately and consult your local JVC dealer.

The camcorder is a microcomputer-controlled device. External noise and interference (from a TV, a radio, etc.) might prevent it from functioning properly. In such cases, first disconnect its power supply unit (battery pack, AC Power Adapter/Battery Charger, etc.) and wait a few minutes and then re-connect it and proceed as usual from the beginning.

Declaration of Conformity

Model Number : GR-DVL500U/300U
Trade Name : JVC
Responsible party : JVC AMERICAS CORP.
Address : 1700 Valley Road Wayne, N.J. 07470
Telephone Number : 973-315-5000

This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Change or modifications not approved by the party responsible for compliance could void the user's authority to operate the equipment. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

F

Fade-In/Out ☐ pg. 26, 27
 Fast-Forward The Tape ☐ pg. 31
 Frame-By-Frame Playback ☐ pg. 31, 42

G

Gain Up ☐ pg. 23
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I

Icons ☐ pg. 23 - 25
 Insert Editing ☐ pg. 51
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 Iris Lock ☐ pg. 29

J

Journalistic Shooting ☐ pg. 15

L

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 Load A Tape ☐ pg. 12

M

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 Menu Screen, MANUAL MENU ☐ pg. 24, 25
 Menu Screen, VIDEO MENU ☐ pg. 32
 Monotone ☐ pg. 28

A

AC Power Adapter/Charger ☐ pg. 8, 9
 Audio Dubbing ☐ pg. 50
 Auto Focus ☐ pg. 21
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B

Backlight Compensation ☐ pg. 29
 Battery Low ☐ pg. 60
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C

Channels (Left/Right) ☐ pg. 33
 Charge The Battery Pack ☐ pg. 8
 Cinema ☐ pg. 24
 Classic Film ☐ pg. 28
 Clean The Camcorder ☐ pg. 58
 Connections ☐ pg. 9, 34, 36 - 39, 45

D

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 Date/Time Display ☐ pg. 25, 32, 33
 Date/Time Settings ☐ pg. 11
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 DIS (Digital Image Stabilizer) ☐ pg. 24
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 Dubbing ☐ pg. 38, 39

E

Erase Protection ☐ pg. 12
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	Wind Cut	pg. 25
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Z		
	Zooming	pg. 18

LCD monitor
GR-DVL500
GR-DVL300
Viewfinder
GR-DVL500
GR-DVL300
Speaker

: 3.0" diagonally measured, LCD panel/TFT active matrix system
: 2.5" diagonally measured, LCD panel/TFT active matrix system
: Electronic viewfinder with 0.44" color LCD
: Electronic viewfinder with 0.24" black/white LCD
: Monaural

For Digital Video Camera

Format
: DV format (SD mode)
Signal format
: NTSC standard
Recording/Playback format
: Video: Digital component recording
: Audio: PCM digital recording, 32 kHz 4-channel (12-bit), 48 kHz 2-channel (16-bit)
Cassette
: Mini DV cassette
Tape speed
: SP: 18.8 mm/s
: LP: 12.5 mm/s
Maximum recording time
(using 80 min. cassette)
: SP: 80 min.
: LP: 120 min.

70^{EN}

SPECIFICATIONS (cont.)

For Connectors

S
: Y : 1 V (p-p), 75 Ω, analog output
: C : 0.29 V (p-p), 75 Ω, analog output
AV
Video output
: 1 V (p-p), 75 Ω, analog
Audio output
: 300 mV (rms), 1 kΩ, analog, stereo
DV
Input/output
: 4-pin, IEEE 1394 compliant
PC (DIGITAL PHOTO)
Digital still output
: ø2.5 mm, 3-pole
ILUP/EDIT
: ø3.5 mm, 4-pole

For General

Power supply
: DC 6.3 V (Using AC Power Adapter/Charger)
: DC 7.2 V (Using battery pack)

Power consumption

LCD monitor off, viewfinder on : Approx. 4.3 W
LCD monitor on, viewfinder off : Approx. 5.3 W
Video light : Approx. 3.5 W

Dimensions (W x H x D)

: 80 mm x 96 mm x 159 mm (3-3/16" x 3-13/16" x 6-5/16")
(with the LCD monitor closed and the viewfinder pushed down)

Weight

: Approx. 570 g (1.3 lbs)

Operating temperature

: 0°C to 40°C (32°F to 104°F)

Operating humidity

: 35% to 80%

Storage temperature

: -20°C to 50°C (-4°F to 122°F)

Pickup

: 1/4" CCD

Lens

: F 1.8, f = 3.6 mm to 36 mm, 10:1 power zoom lens

Filter diameter

: ø37 mm

AC Power Adapter/Charger AA-V40U

Power requirement

U.S.A. and Canada : AC 120 V~, 60 Hz

Other countries : AC 110 V to 240 V~, 50 Hz/60 Hz

Power consumption : 23 W

Output

Charge : DC 7.2 V, 1.2 A

VTR : DC 6.3 V, 1.8 A

Dimensions (W x H x D) : 68 mm x 38 mm x 110 mm (2-11/16" x 1-1/2" x 4-3/8")

Weight : Approx. 250 g (0.56 lbs)

Specifications shown are for SP mode unless otherwise indicated. E & O.E. Design and specifications subject to change without notice.

SECTION 1 DISASSEMBLY

1.1 BEFORE ASSEMBLY AND DISASSEMBLY

1.1.1 Precautions

1. Be sure to remove the power supply unit prior to mounting and soldering of parts.
2. When removing a component part that needs to disconnect the connector and to remove the screw for removing itself, first disconnect the connecting wire from the connector and then remove the screw beforehand.
3. When connecting and disconnecting the connectors, be careful not to damage the wire.
4. When replacing chip parts (especially IC parts), desolder completely first (to prevent peeling of the pattern).
5. Tighten screws properly during the procedures.
Unless specified otherwise, tighten screws at a torque of 0.078N·m (0.8kgf·cm).

1.1.2 Assembly and disassembly

STEP	PART	Fig No.	POINT	NOTE
①	TOP COVER	Fig.1-3-2	2(S①a), (S①b)	—
②	FRONT ASSY (Inc. MIC, DC LIGHT)		(S②a), (S②b), (S②c), (S②d) (L②a), 2(L②b) ☆CN ④, ⑤	NOTE ②a NOTE ②b NOTE ②c NOTE ②d

↑ (1) ↑ (2) ↑ (3) ↑ (4) ↑ (5)

(1) Indicate the disassembly steps. When assembling, perform in the reverse order of these steps. This number corresponds to the number in the disassembly diagram.

(2) Indicates the name of disassembly/assembly parts.

(3) Indicates the number in the disassembly diagram.

(4) Indicates parts and points such as screws, washers, springs which must be removed during disassembly/assembly.

S = Screw

Lock (L), soldering (SD), shield, connector, etc.

P = Spring

W = Washer

☆CN = Connector

[Example] 2(S①a): Remove the two screws (S①a) fastening the part ①.

(5) Precautions on disassembly/assembly.

1.1.3 Destination of connectors

Note: Three kinds of double-arrows in connection tables respectively show kinds of connector/wires.

↔ : Wire

⇔ : Flat wire

↔ : Board to Board connector

[Example]

CONN. No.	CONNECTOR				Pin No.
④	MAIN	CN104	↔	DC LIGHT	2

1.1.4 Disconnection of Connectors (Wires)

Connector

Pull both ends of the connector in the arrow direction, remove the lock and disconnect the flat wire.

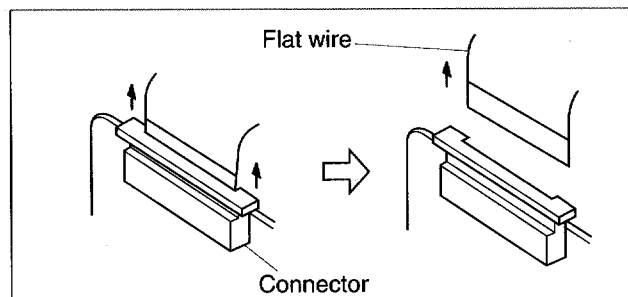


Fig. 1-1-1 Connector 1

Extend the locks in the direction of the arrow for unlocking and then pull out the wire. After removing the wire, immediately restore the locks to their original positions because the locks are apt to come off the connector.

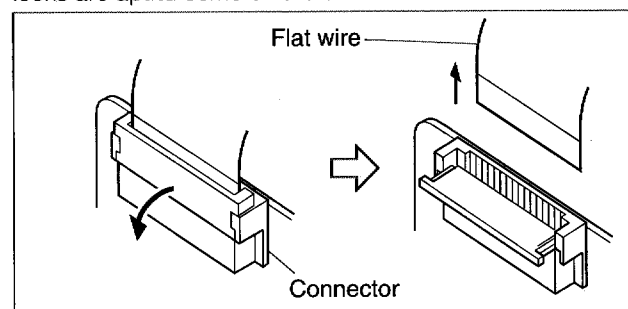


Fig. 1-1-2 Connector 2

B-B connector

Pull the board by both the sides in the direction of the arrow for disconnecting the B-B connector

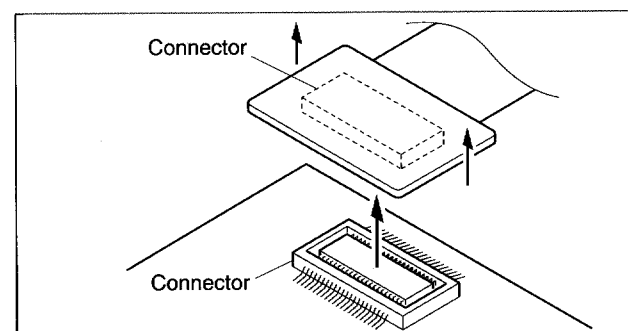


Fig. 1-1-3 Connector 3

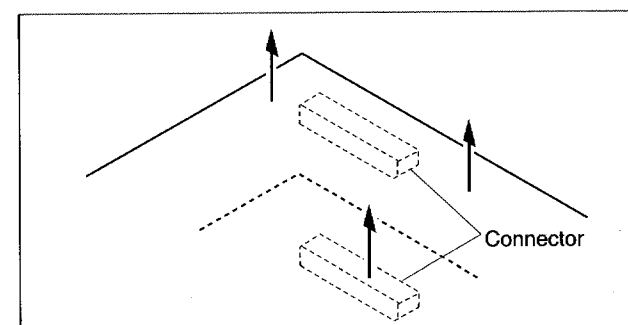


Fig. 1-1-4 Connector 4

1.2 TOOLS AND EQUIPMENTS REQUIRED FOR ADJUSTMENTS

1.2.1 Tools required for adjustments

1	Alignment tape MC-1	2	Torque driver YTU94088	3	Bit YTU94088-003	4	Guide driver YTU94148A
5	Adjustment driver YTU94028	6	Chip IC replacement jig PTS40844-2	7	Connector extractor YTU94036A	8	Patch cord YTU94074-24/YTU94077-24
9	Jig connector cable YTU93082E	10	PC cable QAM0099-002	11	Service support system YTU94057-46	12	INF adjustment lens YTU92001B
13	INF adjustment lens holder YTU94087	14	Camera stand YTU93079	15	Light box unit YTU93096A	16	Gray scale chart YTU94133A
17	Color bar chart YTU94133C	18	Soldering kit YTU96016B	19	Cleaning cloth KSMM-01		

Table 1-2-1

- Alignment tape
To be used for check and adjustment of interchangeability of the mechanism.
- Torque driver
Be sure to use to fastening the mechanism and exterior parts because those parts must strictly be controlled for tightening torque.
- Bit
This bit is slightly longer than those set in conventional torque drivers.
- Guide driver
To be used to turn the guide roller to adjustment of the linearity of playback envelope.
- Adjustment driver
To be used for adjustment.
- Chip IC replacement jig
To be used for adjustment of the camera system.
- Connector extractor
To be used to release the connector.
- Patch cord
To be used to connect electrical parts, P.C. boards, etc. for servicing.
Note: The patch cord that is newly required for repair service. Besides this patch cord, existing patch cords are also required for service.
- Jig connector cable
Connected to CN105 of the main board and used for measuring error rates, etc.

10. PC cable
To be used to connect the VideoMovie and a personal computer with each other when a personal computer is used for adjustment.
11. Service support system
To be used for adjustment with a personal computer.
12. INF adjustment lens
To be used for adjustment of the camera system.
13. INF adjustment lens holder
To be used together with the camera stand (19) for operating the VideoMovie in the stripped-down condition such as the status without the exterior parts or for using commodities that are not yet conformable to the interchangeable ring.
14. Camera stand
To be used together with the INF adjustment lens holder.
15. Light box unit
To be used for adjustment of the camera system.
16. Gray scale chart (for No. 15)
To be used for adjustment of the camera system.
17. Color bar chart (for No. 15)
To be used for adjustment of the camera system.
18. Soldering kit
Thin head is made so that it can be inserted into small spaces.
19. Cleaning cloth
Recommended cleaning cloth to wipe down the video heads, mechanism (tape transport system), optical lens surface.

1.3 DISASSEMBLY/ASSEMBLY OF CABINET PARTS AND BOARD ASSEMBLY

1.3.1 Disassembly flow chart

This flowchart indicates the disassembly step for the cabinet parts and board assembly in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order.

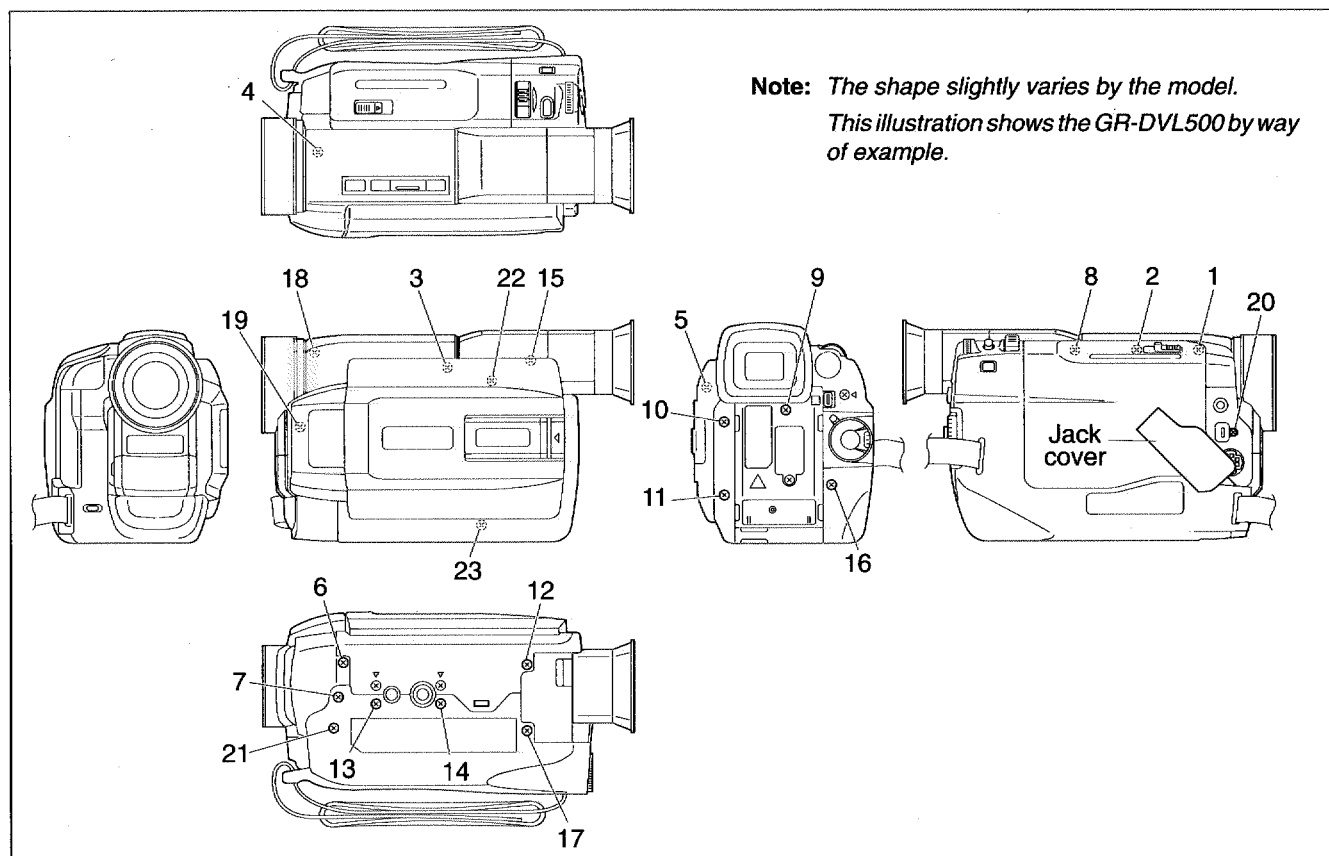
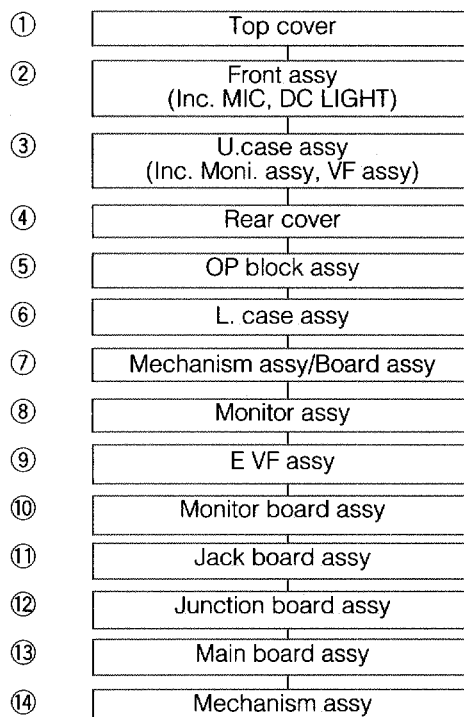


Fig. 1-3-1

1.3.2 Disassembly method (I)

Note: For the position of the screw, refer to Fig. 1-3-1.

STEP No.	PART	Fig No.	POINT	NOTE
①	TOP COVER	Fig.1-3-2	2(S1a), (S1b), (L1)	-
②	FRONT ASSY (Inc. MIC, DC LIGHT)		(S2a), (S2b), (S2c), (S2d) (L2a), 2(L2b) ☆CN A, B	NOTE2a NOTE2b NOTE2c NOTE2d
③	U. CASE ASSY (Inc. MONITOR UNIT ASSY / VF ASSY)		(S3a), (S3b), 2(S3c) (S3d), 2(S3e), (L3) ☆CN C	NOTE3a NOTE3b NOTE3c
④	REAR COVER		3(S4) ☆CN D	NOTE4
⑤	OP BLOCK ASSY		2(S5) BKT (OP) ☆CN E, F	-
⑥	L. CASE ASSY		(S6a), (S6b), 2(S6c) ☆CN G JACK COVER	NOTE6
⑦	MECHANISM ASSY /MAIN BOARD ASSY, etc.		-	NOTE7

Table 1-3-2

CONN. No.	CONNECTOR				Pin No.
A	MAIN	CN104	↔	DC LIGHT	2
B	MAIN	CN106	↔	MIC	3
C	MAIN	CN101	↔	MONITOR	CN7601 32
D	REAR	CN551	↔	MAIN	CN103 11
E	MAIN	CN107	↔	CCD	18
F	MAIN	CN108	↔	OP BLOCK	24
G	MAIN	CN114	↔	ZOOM OPE	15

Table 1-3-3

Note2a: Pay heed to the screws to remove.

Note2b: Pay heed to the screws to remove.

Note2c: For removing the DC light, disengage it from the internal pawls in both sides.

Note2d: For removing the microphone, remove the screw from the inside and draw out the microphone. If the seat is stuck to the inside, remove it beforehand.

Note3a: Pay heed to the screws to remove.

Note3b: Pay heed to the part not to damage it.

Note3c: For disassembling the ⑧ monitor assembly and ⑨ VF assembly, refer to the section 1.3.3.

Note4: When assembling, pay careful attention to the wire not to damage it.

Note6: Remove the cover and the screws.

Note6: Remove the cover and the screws.

Note7: For disassembling the mechanism assembly and board assemblies, refer to the section 1.3.4.

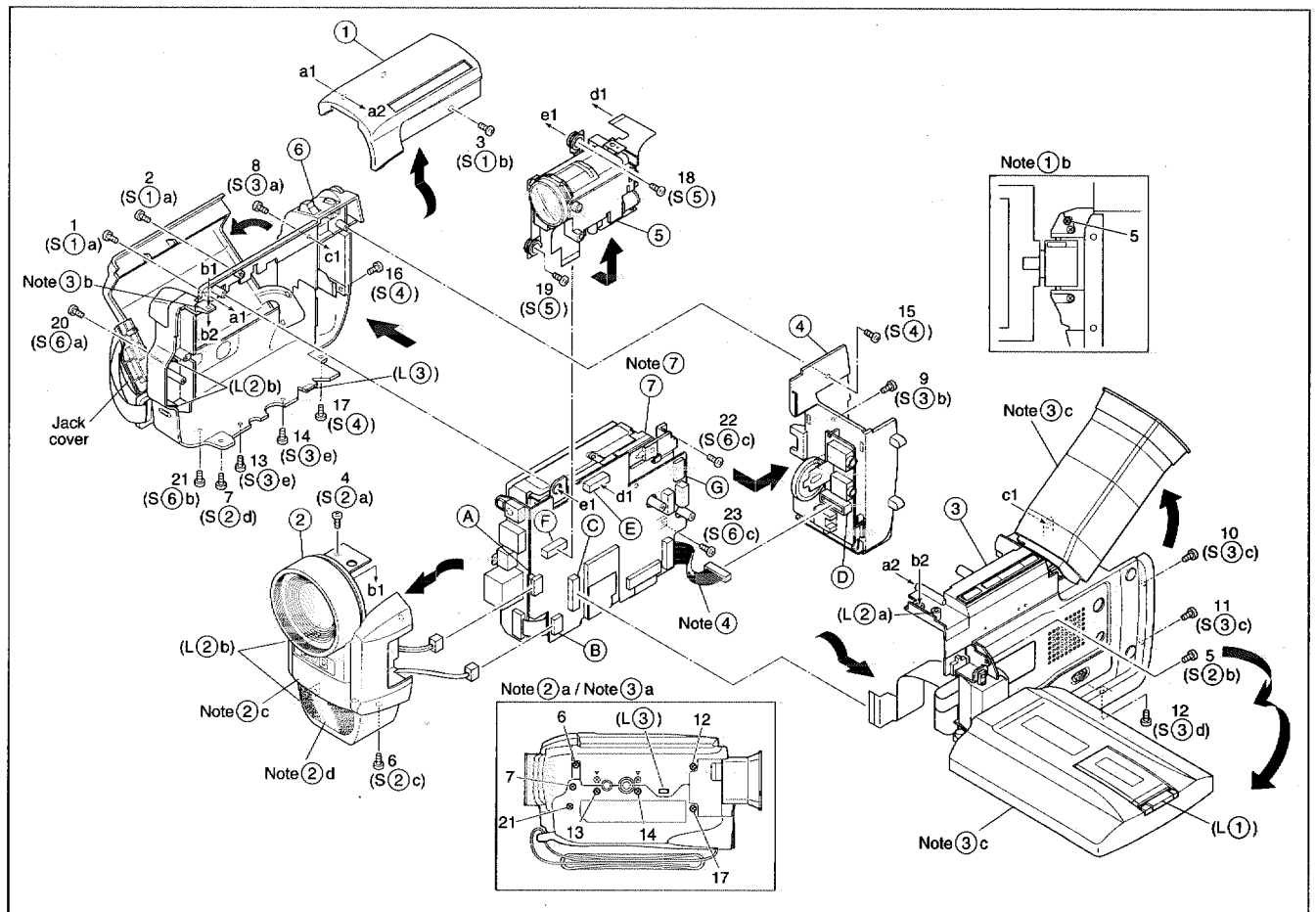


Fig. 1-3-2

1.3.3 Disassembly method (II)

STEP No.	PART	Fig No.	POINT	NOTE
⑧	MONITOR ASSY	Fig.1-3-3	2(S⑧), (L⑧) ☆CN ⑨	NOTE⑧
⑨	E VF ASSY		(S⑨a), 2(S⑨b) ☆CN ⑩	NOTE⑨a NOTE⑨b
⑩	MONITOR BOARD ASSY		(S⑩a), (S⑩b), 2(S⑩c) SPEAKER, PLATE (SPK) KNOB (SW) ☆CN ⑪	NOTE⑩a NOTE⑩b

Table 1-3-4

CONN. No.	CONNECTOR				Pin No.
⑨	MONITOR	CN7604	↔	LCD BL CN7501	33/32
⑩	MONITOR	CN7603	↔	C-VF CN7551	20
⑪	MONITOR	CN7602	↔	B/W VF CN7201	20
	MONITOR	CN7605	↔	SPEAKER	2

Table 1-3-5

Note⑧: Carefully proceed in the work not to damage the switch.

Note⑨a: When disassembling, raise the E. VF assembly to the utmost position for disconnecting the FPC and removing the screw.

Note⑨b: For removing the E. VF assembly, raise it furthermore and remove it while widening the opening between the E. VF assembly and operation switch as the tapped holes No. 4, 5 and holes of the hinge assembly are shifted off each other.

Pay heed to the FPC wire and parts not to break or damage anything through the work.

Note⑩a: When assembling, check to see if the speaker is properly set in the frame and tightly fastened with the plate.

Note⑩b: When disassembling, be careful not to lose any part.

When assembling, pay careful attention to the position of the switch and knob, and check to see if the switch slides smoothly after assembly.

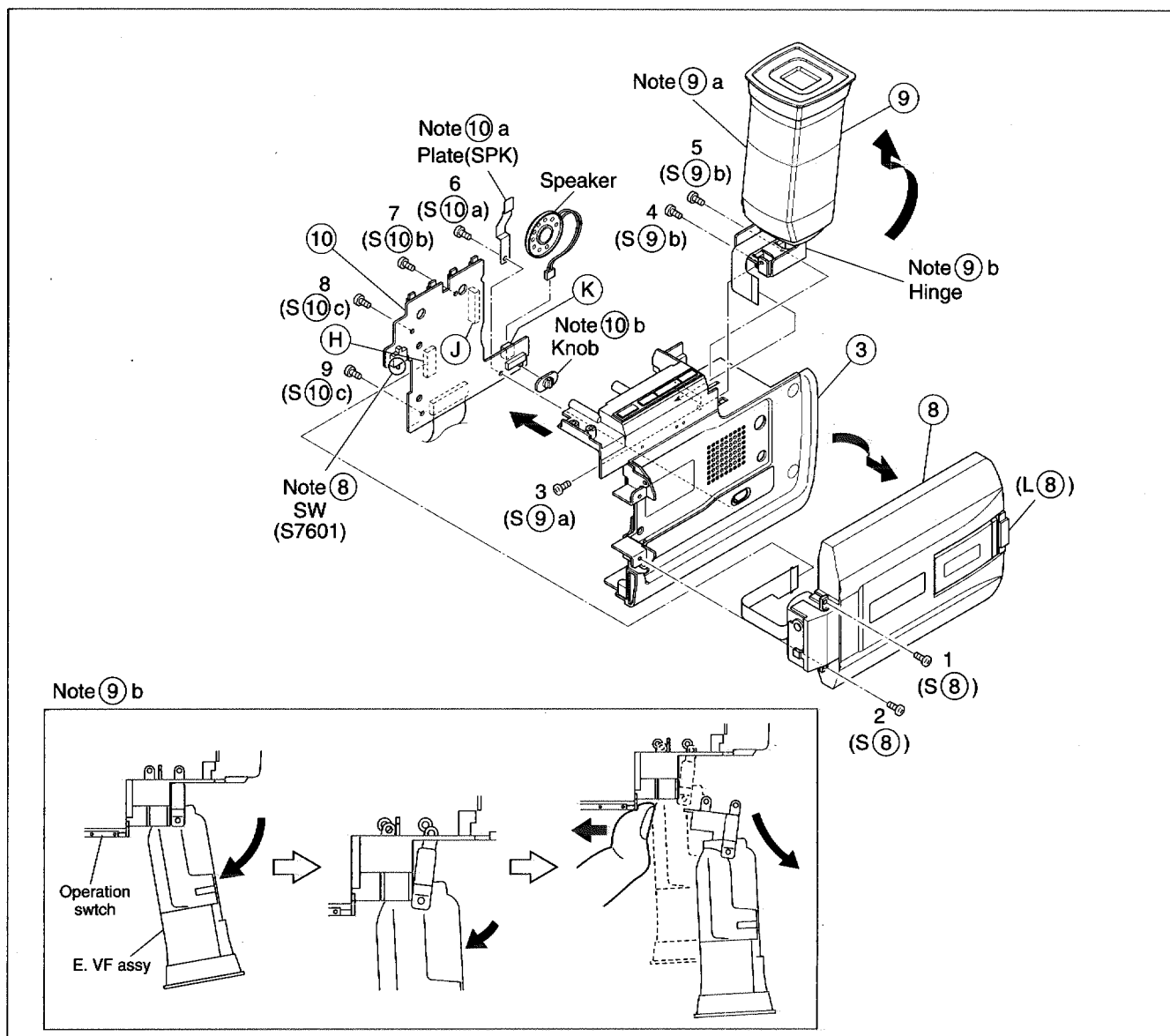


Fig. 1-3-3

1.3.4 Disassembly method (III)

STEP No.	PART	Fig No.	POINT	NOTE
⑪	JACK BOARD ASSY	Fig.1-3-4	2(S⑪) ☆CN ①	-
⑫	JUNC. BOARD ASSY		(S⑫a), 2(S⑫b) ☆CN ③, ④, ⑤, ⑥	NOTE⑫
⑬	MAIN BOARD ASSY		(S⑬a), 2(S⑬b), (L⑬) SHIELD CASE ☆CN ⑦, ⑧, ⑨	-
⑭	MECHANISM ASSY		2(S⑭), 2(L⑭) HOLDER(M) ASSY	-

Table 1-3-6

CONN. No.	CONNECTOR					Pin No.
①	JACK	CN501	⇔	MAIN	CN102	22
③	MAIN	CN113	⇔	JUNCTION	CN571	33
④	JUNCTION	CN574	⇔	LOADING MOTOR		6
⑤	JUNCTION	CN573	⇔	DRUM MOTOR		11
⑥	JUNCTION	CN572	⇔	SENSOR		15
⑦	MAIN	CN110	⇔	HEAD		8
⑧	MAIN	CN112	⇔	CAPSTAN MOTOR		18
⑨	MAIN	CN111	⇔	ROTARY ENCODER		6

Table 1-3-7

Note⑫: When removing, first disconnect the connectors ③, ④ and ⑤, next remove the screws. Then, open the board assembly and disconnect the connector ⑥ on the back side.

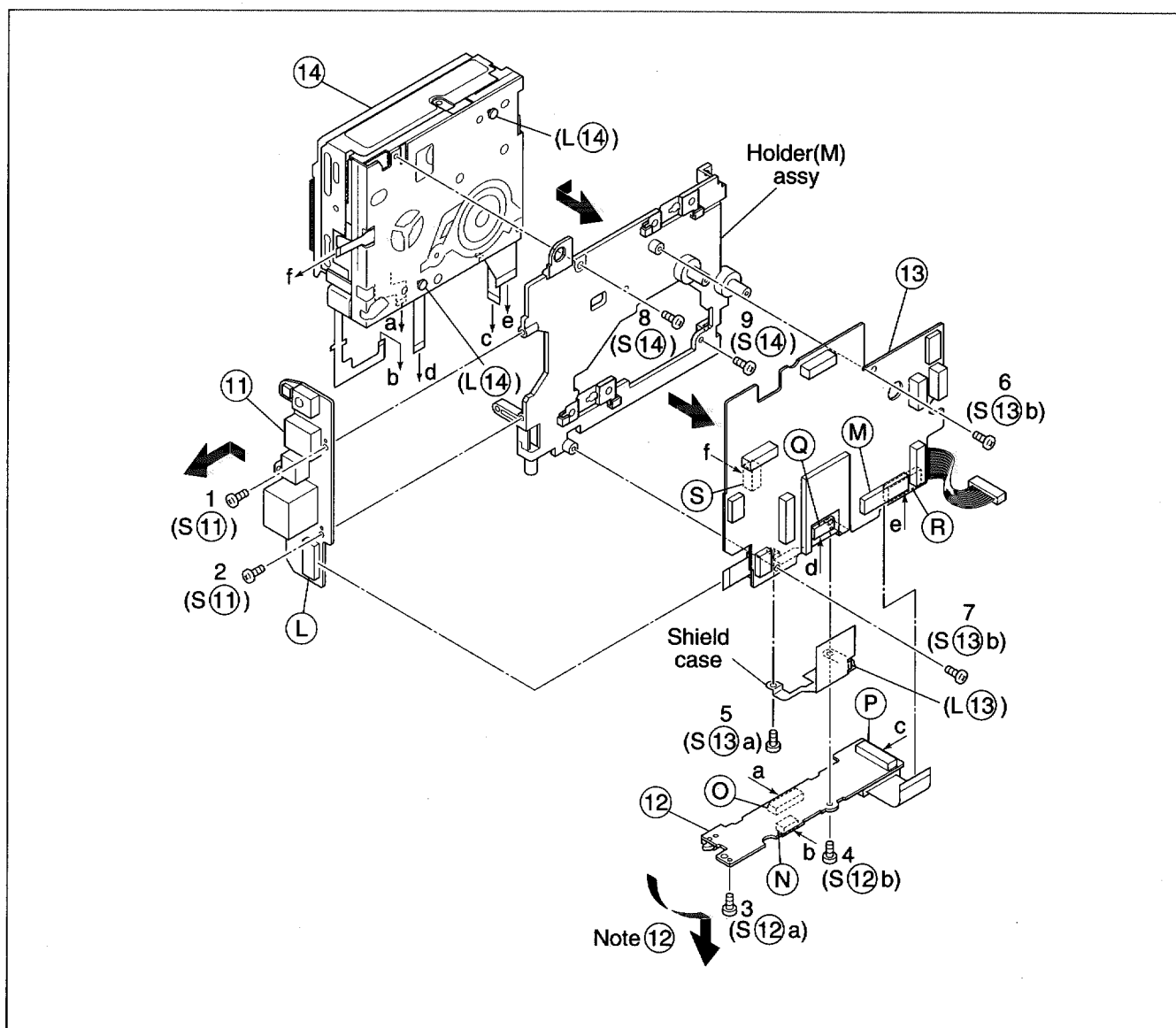


Fig. 1-3-4

1.4 ⑧DISASSEMBLY/ASSEMBLY OF MONITOR ASSEMBLY

Note: The shape of the monitor assembly varies by the size of the LCD screen.
For the 2.5"-type LCD, refer to Fig. 1-4-1.

1.4.1 Disassembly/assembly of monitor assembly (for 2.5"-type LCD)

Note: Be careful not to soil or scratch the monitor screen through the disassembly/assembly work.

1. Remove the four screws ① to ④ in numerical order. While disengaging the six hooks (L④a to L④f) in alphabetical order, remove the monitor cover assembly.
2. Unlock the connector ③ and then disconnect the FPC while lifting the hinge assembly upwards to remove it together with the FPC.

Note④a: For disconnecting the FPC, unlock the connector first and then lift the hinge assembly upwards. Accordingly, the FPC is disconnected together with the hinge assembly.

3. Disconnect the wire and FPC from the two connectors ⑥, ⑦, and then remove the MONITOR BL board assembly, holder (PWB) and backlight together.
4. Remove the LCD module while disengaging it from the two hooks (L④g, L④h).

1.4.2 Disassembly/assembly of hinge assembly (for 2.5"-type LCD)

1. Remove the one screw ⑤ first, and then remove the two screws ⑥, ⑦ after removing the SW board assembly. While disengaging the four hooks (L④j, L④k) in both sides, remove the hinge cover (1) and (2).

Note④b: When disassembling/assembling the hinge assembly, pay careful attention to every part not to damage anything.

Note④c: When connecting the FPC, arrange the FPC wire by winding it around the shaft (hinge pin) of the hinge assembly by two and a half turns while paying heed to the orientation of the hinge assembly and FPC.

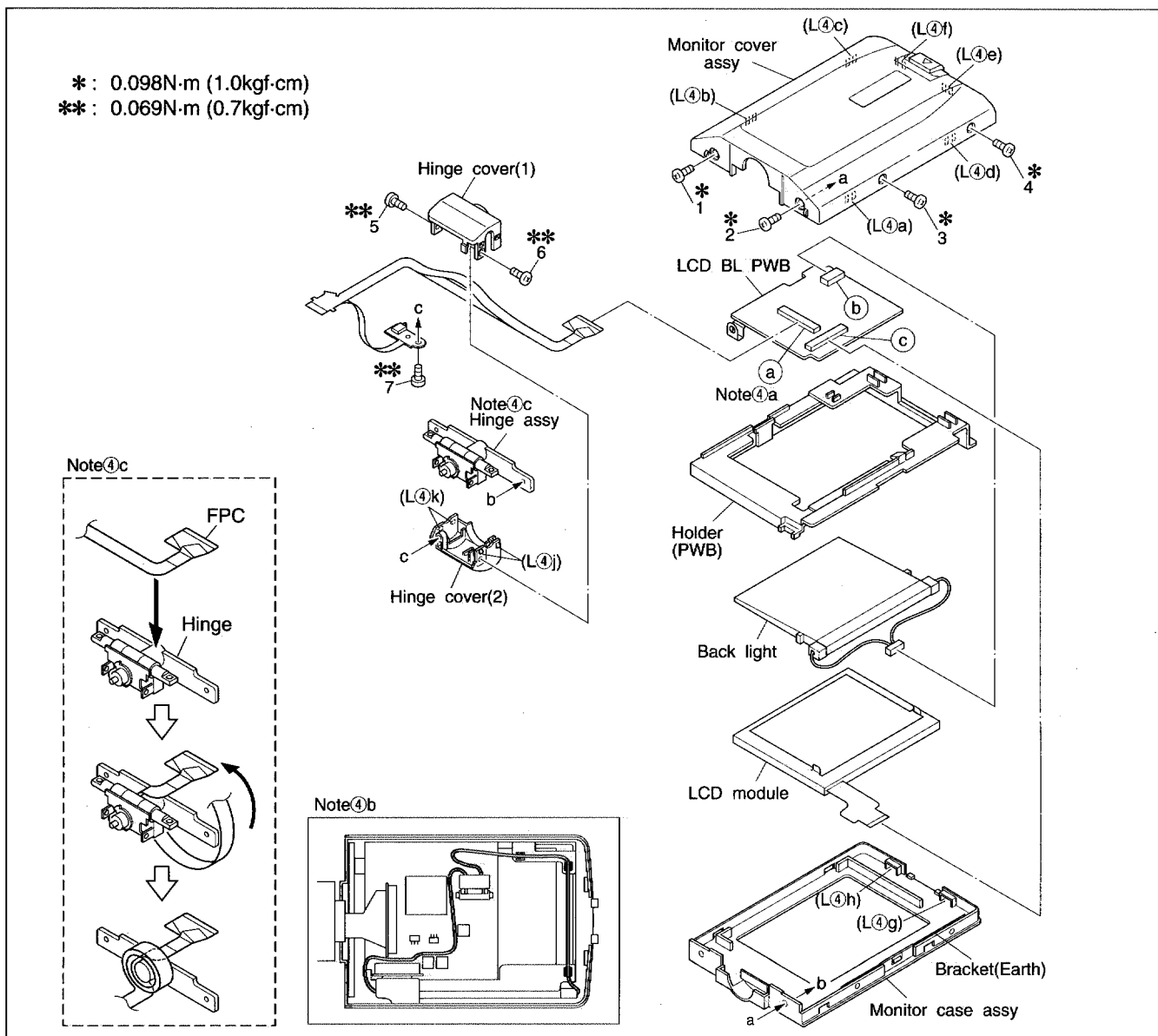


Fig. 1-4-1

For the 3"/3.5"-type LCD, refer to Fig. 1-4-2.

Note: Be careful not to soil or scratch the monitor screen through the disassembly/assembly work.

- Note ④d:** When removing the monitor cover assembly, be careful not to damage the FPC and connector.

- Note④e:** For disconnecting the FPC, unlock the connector first and then lift the hinge assembly upwards. Accordingly, the FPC is disconnected together with the hinge assembly.

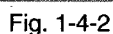
3. Disconnect the wire and FPC from the two connectors ㉔, ㉕, and then remove the MONITOR BL board assembly, holder (PWB) and backlight together.
4. Remove the LCD module while disengaging it from the four hooks (L4a to L4k).

Note ④f: The holder (LCD) is used for the 3"-type monitor assembly only.

1. Remove the one screw ⑤ first, and then remove the two screws ⑥, ⑦ after removing the SW board assembly. While disengaging the four hooks (L④j, L④k) in both sides, remove the hinge cover (1) and (2).

- Note ④g:** When disassembling/assembling the hinge assembly, pay careful attention to every part not to damage anything.

Note ④h: When connecting the FPC, arrange the FPC wire by winding it around the shaft (hinge pin) of the hinge assembly by two and a half turns while paying heed to the orientation of the hinge assembly and FPC.



1.5 ⑨E. VF ASSEMBLY

Note: The shape of the E. VF assembly varies by the type of the viewfinder (B/W, color VF).

For the B/W VF, refer to Fig. 1-5-1.

1.5.1 Disassembly/assembly of E. VF assembly (for B/W VF)

Note: Place the E. VF assembly with the VF case (upper) assembly down through the disassembly/assembly work.

1. First remove the two screws (1, 2), next remove the eyepiece assembly.
2. Remove the two screws (3, 4), and disengage the two hooks (L⑤a, L⑤b) in both sides while extending the VF case (upper) assembly by one side. Accordingly, the VF case (lower) can be removed.

Note⑤a: When reassembling, install the VF case (lower) paying careful attention to the FPC so that it is not caught in the hinge assembly of the VF case (lower) when the hinge assembly is folded down.

Note⑤b: Don't remove the hinge assembly fastened to the VF case (lower) with the screws unreasonably except for replacement. For removing the hinge assembly for replacement, remove the two screws (6, 7). When installing a new hinge assembly, be sure not to use the screws that were once removed but to use new screws to fasten it.

3. Remove the one screw (5) and remove the board assembly, LCD module and holder together.

Note⑤c: When reassembling, set the holder in the groove and fasten the board assembly with the screw while arranging the FPC carefully.

4. Disconnect the FPC and wire, and then remove the LCD module.
5. Remove the holder while disengaging it from the two hooks (L⑤c, L⑤d).

Note⑤d: When reassembling, pay careful attention to the vertical orientation.

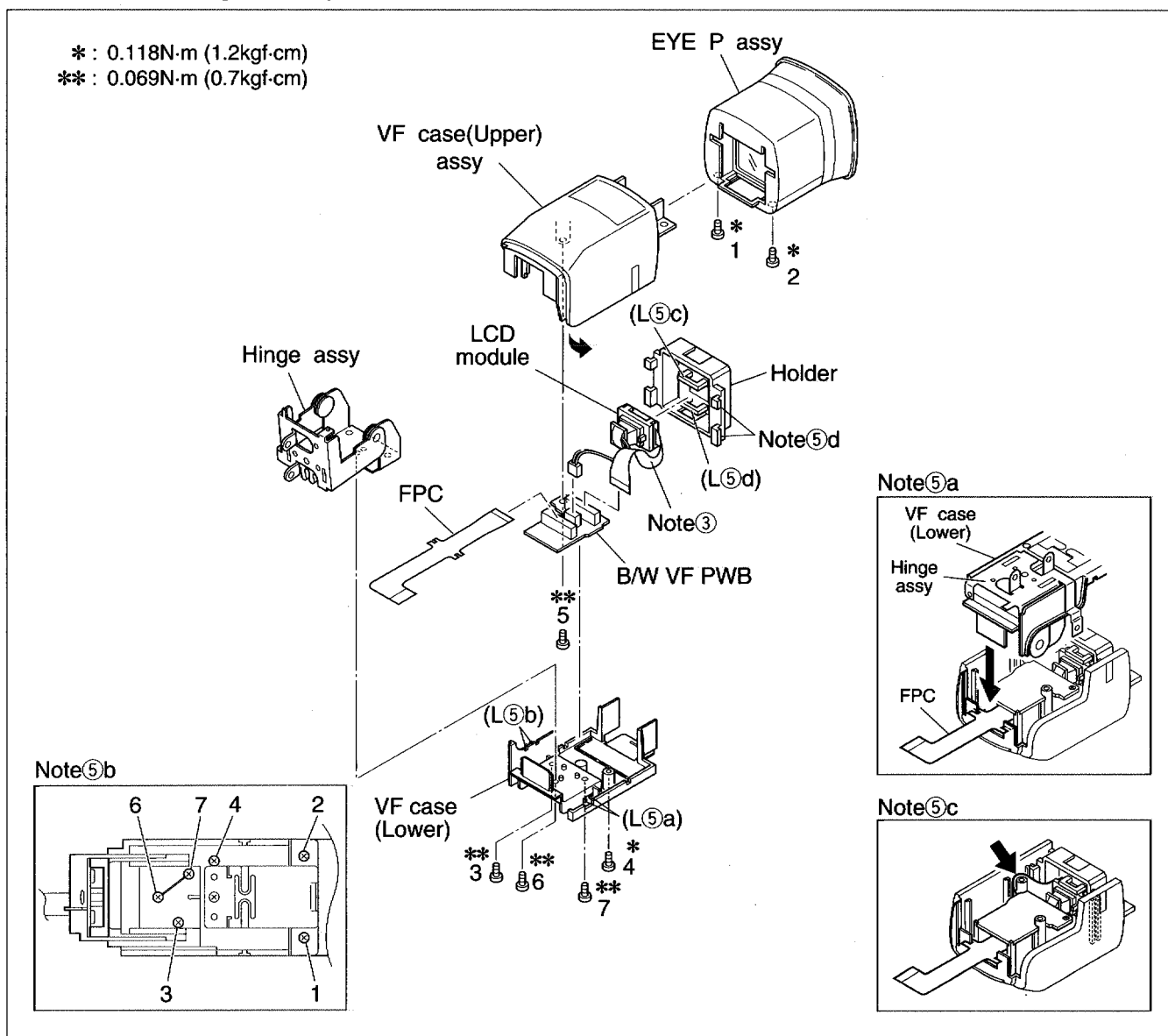


Fig. 1-5-1

1.5.2 Disassembly/assembly of E. VF assembly (for color VF)

Note: Place the E. VF assembly with the VF case (upper) assembly down through the disassembly/assembly work.

1. Remove the two screws (1, 2) and then remove the eyepiece assembly.
2. While extending the VF case (upper) by one side, disengage the two hooks (L⑤a, L⑤b) and remove the VF case (lower).

Note⑤e: When reassembling, first set the LCD assembly and FPC in the VF case (upper), next install the VF

case (lower) paying careful attention to the FPC so that it is not caught in the hinge assembly of the VF case (lower) when the hinge assembly is folded down.

Note⑤f: Don't remove the hinge assembly fastened to the VF case (lower) with the screws unreasonably except for replacement. For removing the hinge assembly for replacement, remove the two screws (6, 7). When installing a new hinge assembly, be sure not to use the screws that were once removed but to use new screws to fasten it.

3. Remove the LCD assembly and FPC assembly.

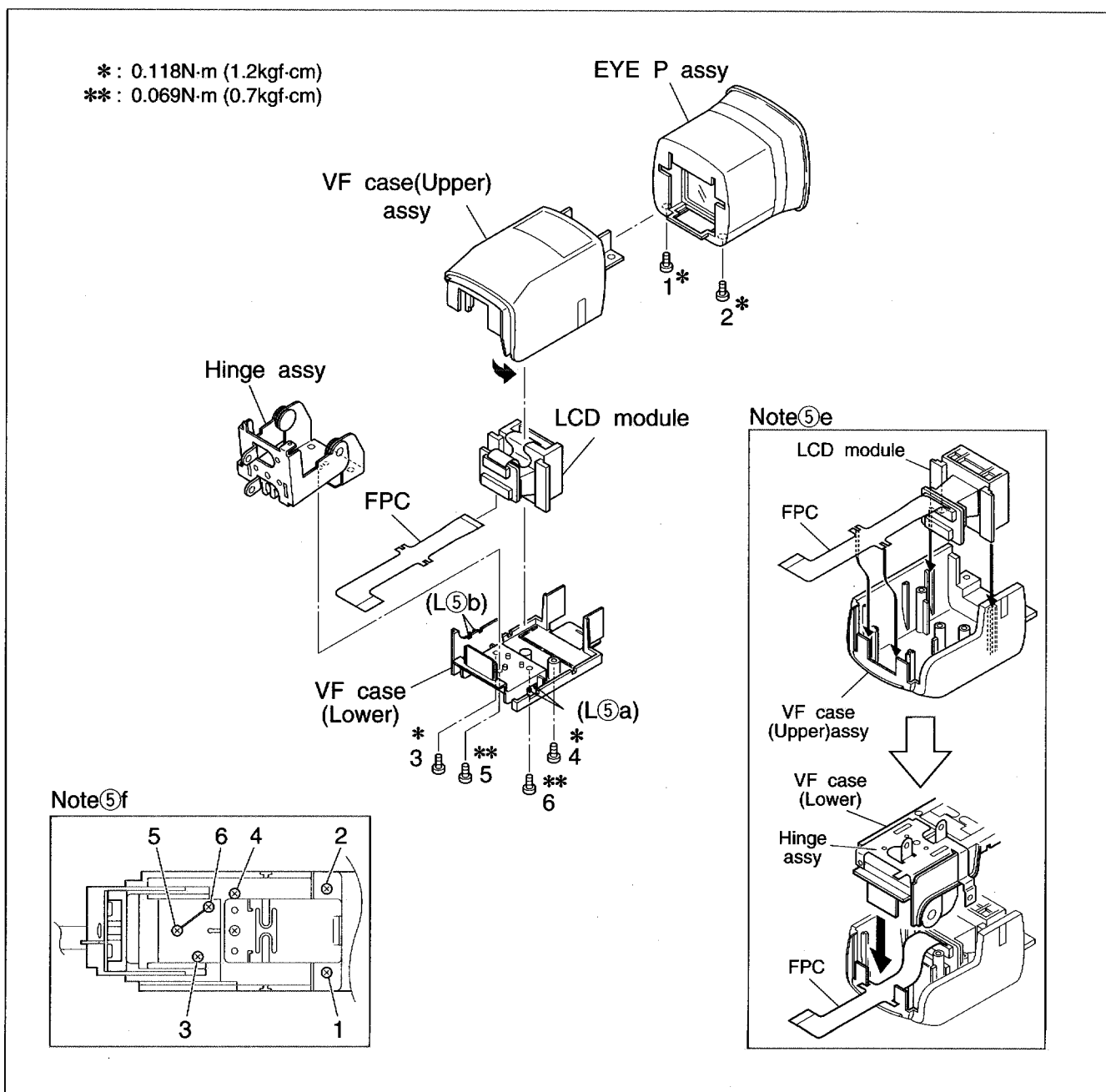


Fig. 1-5-2

1.6 DISASSEMBLY OP BLOCK ASSEMBLY/CCD BOARD ASSEMBLY

1.6.1 Precautions

1. Through the disassembly/assembly work, carefully handle the CCD image sensor, optical LPF, lens, and so on paying the closest attention to the surface of each part so as to prevent it from getting soiled, dusty or scratched. If some of them gets soiled with fingerprints, etc., wipe it out with silicone paper, clean chamois, or super cleaning cloth recommended by JVC, or the like.
2. The new CCD image sensor is occasionally shipped from the factory as a protection seal is applied onto its transparent glass. If so, leave the protection seal as it is and remove it just before installing the CCD image sensor into the OP block assembly.
3. The orientation of the optical LPF is an important factor for installation. If there is some marking on the LPF, be sure to note it down before removing and to reassemble it very carefully as it was referring to the marking.

1.6.2 How to remove CCD board assembly and CCD base assembly

1. Unsolder the CCD board assembly by the 14 points (SD1) and then remove it.
2. Remove the two screws (1, 2) and remove the CCD base assembly.

Note⑥a: When removing the CCD base assembly, pay heed to the CCD image sensor because the spacer rubber and optical LPF are occasionally removed together with the CCD image sensor.

Note⑥b: When replacing the CCD image sensor, don't replace it individually but replace the CCD base assembly in whole with a new one.

1.6.3 How to assemble CCD base assembly and CCD board assembly

1. Install the optical LPF with the spacer rubber attached to its CCD side in the OP block assembly.

Note⑥c: Pay careful attention to the orientation of the LPF.

2. Set the CCD base assembly with careful attention to the spacer rubber not to come off the right position, and fasten them together with the two screws (1, 2).
3. Set the CCD board assembly in the CCD base assembly, and then solder it by the 14 points (SD1).

Note⑥d: When soldering the FPC wire to the terminal after replacement of the focus motor or zoom motor, be sure to keep the tip of a soldering iron approximately 1 mm apart from the terminal.

Note⑥e: The iris motor unit includes the FPC assembly and two sensors.

1.6.4 Replacement of service parts

Service parts to be supplied for the OP block assembly are as follows.

When replacing a part, be very careful not to get the FPC wire broken or damaged by overheating in soldering.

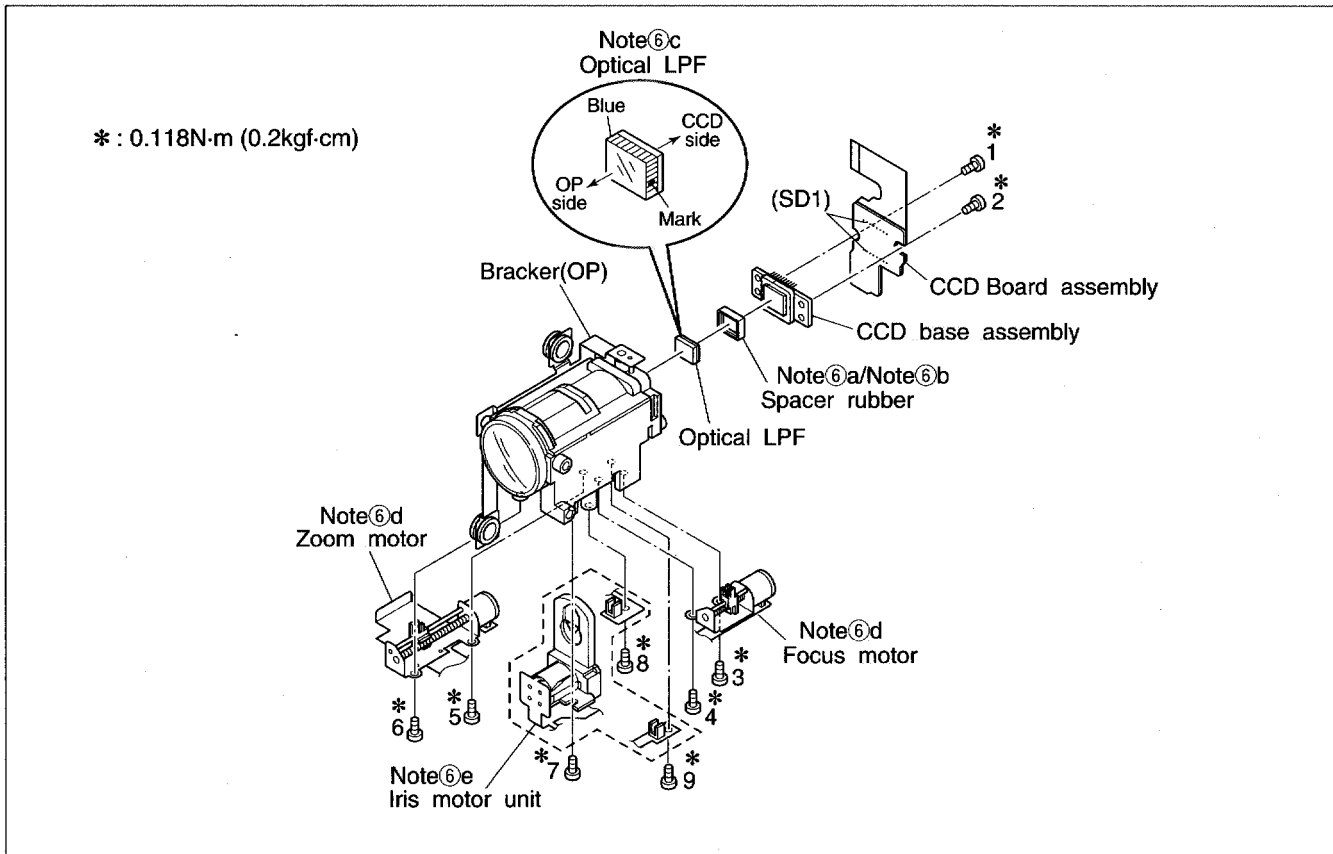


Fig. 1-6-1

1.7 CONNECTION OF CONNECTORS

<PATCH CORDS>

Note: The patch cord No. ② is a new implement, which is to be used as a requisite for servicing this model as well as existing patch cords.

Besides the patch cord No. ②, prepare existing patch cords depending on the situation.

	Connection				Pin No.	Parts Number
①	MAIN	CN107	↔	CCD	18	YTU94074-18 /YTU94077-18
②	MAIN	CN108	↔	OP BLOCK	24	YTU94074-24 /YTU94077-24
③	MAIN	CN114	↔	ZOOM OPE	15	YTU94074-15 /YTU94077-15
④	MONITOR	CN7604	↔	LCD BL	CN7501 33/32	YTU94129A-33 /YTU94109-33
⑤	JACK	CN501	↔	MAIN	CN102	YTU94074-22 /YTU94077-22
⑥	MAIN	CN111	↔	ROTARY ENCORDER	6	YTU94074-6 /YTU94077-6

Table 1-7-1

Note: Since the label of the test point on the board does not correspond to that of the jig connector (CN105), refer to the following table when using the jig connector practically.

JIG CONNECTOR CN105	YTU93082E	JIG BOARD (LABEL)	
AL_3V	20	VPP_7.8V	AL_3V
JIG_SCK	10	MCU_RST	JIG_SCK
JIG_SPT	19	JG_TX	JIG_SPT
SBT	9	GND	SBT
SBE	18	VF_B_OUT	SBE
JLIP_RX	8	VF_R_OUT	JLIP_TX
JLIP_TX	17	VF_VCOM	GND
GND	7	RXD	HID
HID	16	TXD	PB_VCO
PB_VCO	6	VF_G_OUT	JLIP_RX
ENV_OUT	15	GND	ENV_OUT
MAIN_VCO	5	V_FF	MAIN_VCO
ATIF	14	V_OVL	ATIF
FS_PLL	4	V_TP_FM	FS_PLL
REC_MON	13	PB_CTL	REC_MON
SPA	3	V_OUT_U	SPA
SBD	12	GND	SBD
JIG_MOD	2	AO_SIG_U	JIG_MOD
RESET	11	GND	RESET
VPP	1	AL_3.2V	VPP

Table 1-7-2

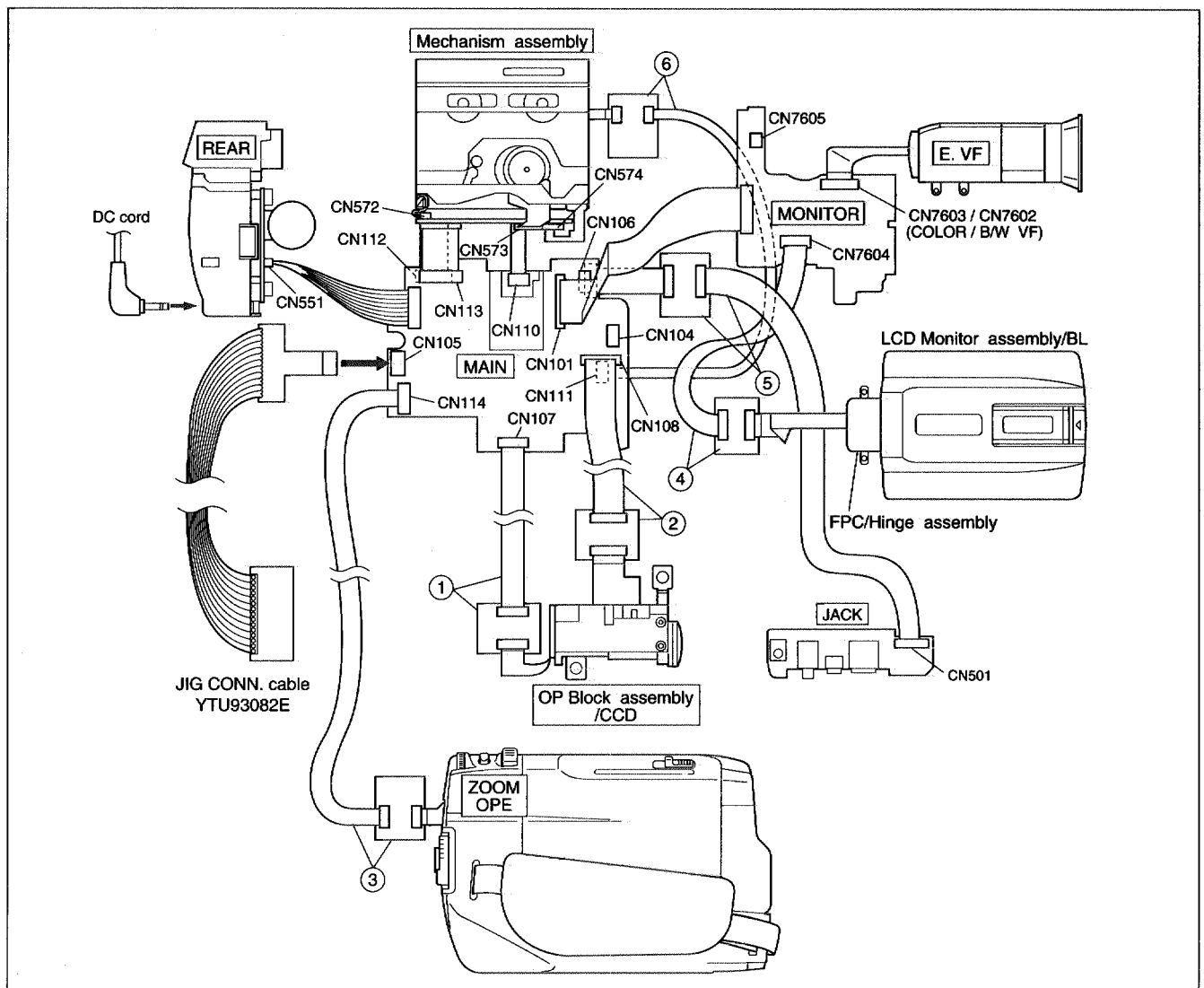


Fig. 1-7-1

1.8 SERVICE NOTE

Symbol No.	①	②	③(⑧/⑨)	④	⑤	⑥
Removing order of screw	1	2	3	4	5	6
Place to stick screw						
Reference drawing			*			
Screw tightening torque						

Fig.1-3-2
I

Symbol No.	⑧	⑨	⑩	⑪	⑫	⑬	⑭
Removing order of screw	1	2	3	4	5	6	7
Place to stick screw	*	*	*	*	*	*	*
Reference drawing							
Screw tightening torque							

Fig.1-3-3
II

Fig.1-3-4
I

MONITOR ASSY								B/W VF ASSY							
→	1	2	3	4	5	6	7	1	2	3	4	5	6	7	
Removing order of screw															
→															
Place to stick screw															
→															
Reference drawing															
→															
Screw tightening torque															
	Fig.1-4-1,2							Fig.1-5-1							
	III							V							
	IV							IV							

COLOR VF ASSY						OP BLOCK ASSY										
→	1	2	3	4	5	6	→	1	2	3	4	5	6	7	8	9
Removing order of screw							→									
Place to stick screw							→									
Reference drawing	Fig.1-5-2						→	Fig.1-6-1								
Screw tightening torque	V						→	V								
	IV						→									

<NOTES>

- 1) * : Don't reuse the screw, because screw lock bond was applied to them.
- 2) Pay careful attention to tightening torque for each screw.
 I : 0.078N·m(0.8kgf·cm) II : 0.147N·m(1.5kgf·cm) III : 0.098N·m(1.0kgf·cm)
 IV : 0.069N·m(0.7kgf·cm) V : 0.118N·m(1.2kgf·cm)

Table 1-8-1

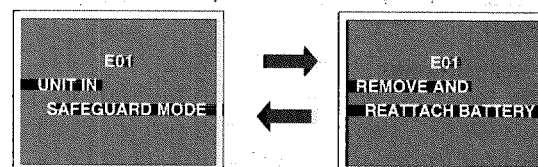
1.9 EMERGENCY DISPLAY

Whenever some abnormal signal is input to the syscon CPU, an error number (E01, as an example) is displayed on the LCD monitor or (in the electronic view finder).

In every error status, such the message as shown below alternately appear over and over.

- In an emergency mode, all operations except turning on/off the POWER switch are ineffectual.

Example (in case of the error number E01):



LCD display	Emergency mode	Details	Possible cause
E01	LOADING	In the case the encoder position is not shifted to the next point though the loading motor has rotated in the loading direction for 4 seconds or more. This error is defined as [E01].	- The mechanism is locked during mode shift. - The mechanism is locked at the mechanism loading end, because the encoder position is skipped during mechanism mode shift. - No power is supplied to the loading MDA.
E02	UNLOADING	In the case the encoder position is not shifted to the next point though the loading motor has rotated in the unloading direction for 4 seconds or more. This error is defined as [E02].	- The mechanism is locked during mode shift. - The mechanism is locked at the mechanism loading end, because the encoder position is skipped during mechanism mode shift.
E03	TU & SUP REEL FG	In the case no REEL FG is produced for 4 seconds or more in the capstan rotation mode after loading was complete, the mechanism mode is shifted to STOP with the pinch roller set off. This error is defined as [E03]. However, no REEL EMG is detected in the SLOW/STILL mode.	- The idler gear does not engage with the reel disk well. - Though the idler gear and reel disk are engaged with each other, the tape is not wound because of overload to the mechanism. - No FG pulse is output from the reel sensor. - No power is supplied to the reel sensor. - Tape transport operation takes place with a cassette having no tape inside. - The tape slackens and no pulse is produced until the slack is taken up and the tape comes into the normal status.
E04	DRUM FG	In the case there is no DRUM FG input in the drum rotation mode for 4 seconds or more. This error is defined as [E04], and the mechanism mode is shifted to STOP with the pinch roller set off.	- The drum cannot be started or drum rotation is stopped because tape transport load is too high. - Tape tension is extremely high. - The tape is damaged or soiled with grease, etc. - The DRUM FG signal is not received by the syscon CPU. - Disconnection in the middle of the signal line. - Failure of the DRUM FG pulse generator (hall element). - No drum control voltage is supplied to the MDA. - No power is supplied to the DRUM MDA.
E05	—	—	—
E06	CAPSTAN FG	In the case no CAPSTAN FG is produced in the capstan rotation mode for 2 seconds or more. This error is defined as [E06], and the mechanism mode is shifted to STOP with the pinch roller set off. However, no CAPSTAN EMG is detected in the STILL/FF/REW mode.	- The CAPSTAN FG signal is not received by the syscon CPU. - Disconnection in the middle of the signal line. - Failure of the CAPSTAN FG pulse generator (MR element). - No capstan control voltage is supplied to the MDA. - No power is supplied to the CAPSTAN MDA. - The capstan cannot be started or capstan rotation is stopped because tape transport load is too high. - Tape tension is extremely high. (Mechanical locking) - The tape is damaged or soiled with grease, etc. (Tape tangling occurs, etc.)

(DVC_03)

Table 1-9-1

SECTION 2 MECHANISM ADJUSTMENT

2.1 PRELIMINARY REMARKS ON ADJUSTMENT AND REPAIR

2.1.1 Precautions

1. When fastening parts, pay careful attention to the tightening torque of each screw. Unless otherwise specified, tighten a screw with the torque of 0.039 N·m (0.4 kgf·cm).
2. Be sure to disconnect the set from the power supply before fastening and soldering parts.
3. When disconnecting/connecting wires, be careful not to get them and their connectors damaged. (Refer to the Section 1.)
4. When replacing parts, be very careful neither to damage other parts nor to fit wrong parts by mistake.

2.1.2 Necessary jigs

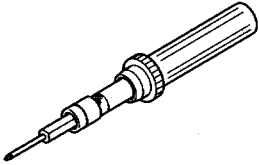
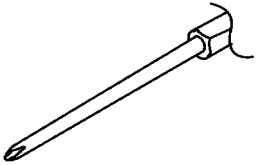
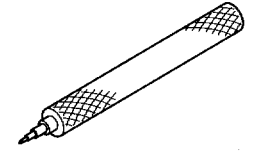
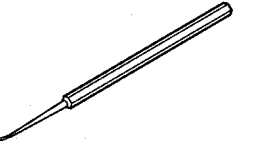
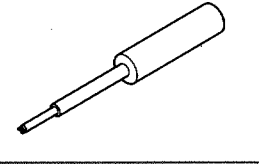
1	Torque driver YTU94088	2	Bit YTU94088-003
			
3	Slit washer fitting jig YTU94121A	4	Chip IC replacement jig PTS40844-2
			
5	Guide driver YTU94148A		
			

Fig. 2-1-1

2.1.3 Notes on procedure for disassembly/assembly

The disassembling procedure table (Table 2-2-2 on page 2-5, a part of the table is shown below for reference) shows the procedure to disassemble/reassemble mechanism parts. Carefully read the following explanation before starting actual disassembling/reassembling work. The item numbers (circled numbers) in the following explanation correspond to those appearing under respective columns of the table.

- (1) Circled numbers appearing in this column indicate the order to remove parts. When reassembling, follow these numbers in the reverse order. Circled numbers in this column correspond to those appearing in drawings of this section.

- (2) This column shows part names corresponding to circled numbers in the left column.

- (3) The symbol (T or B) appearing in this column shows the side which the objective part is mounted on.

T = the upper side, B = the lower side

- (4) Symbols appearing in this column indicate drawing numbers.

- (5) This column indicates parts and points such as screws, washers, springs, and others to be removed/fitted for disassembling/reassembling the mechanism. Besides such the parts, this column occasionally indicates working points.

P = Spring

W = Washer

S = Screw

* = Lock (L), soldering (SD), shield, connector (CN), etc.

Example

- Remove (W1) = Washer W1.

- * Remove the solder at (SD1) = Point SD1.

- * Disconnect (A) = Connector (A).

- (6) Numbers in this column represent the numbers of notes in the text. For example, "1" means "Note 1".

(For parts that need phase adjustment after reassembling, refer to "2.2.7 Check and adjustment of mechanism phase".)

- (7) This column indicates required after-disassembling/reassembling work such as phase adjustment or mechanism adjustment.

Step	Part Name		Fig.	Point	Note	Remarks
(A)	Cassette housing assembly	T	Fig. 2-2-12	3(S1),(L1a)-(L1d)	1a, 1b, 1c, 1d	Adjustment
(2a)	Reel disk (SUP) assembly	T	Fig. 2-2-13	(W2)	2a, 2b	
(2b)	Reel disk (TU) assembly	T	Fig. 2-2-13	(W2)	2a, 2b	
(2c)	Reel cover assembly	T	Fig. 2-2-13	(S2b),2(S2a),(W2)	2d	
(3a)	Tension arm assembly	T	Fig. 2-2-14	(W3a)	3b	

↑
(1)

↑
(2)

↑
(3)

↑
(4)

↑
(5)

↑
(6)

↑
(7)

2.2 DISASSEMBLY/ASSEMBLY OF MECHANISM ASSEMBLY

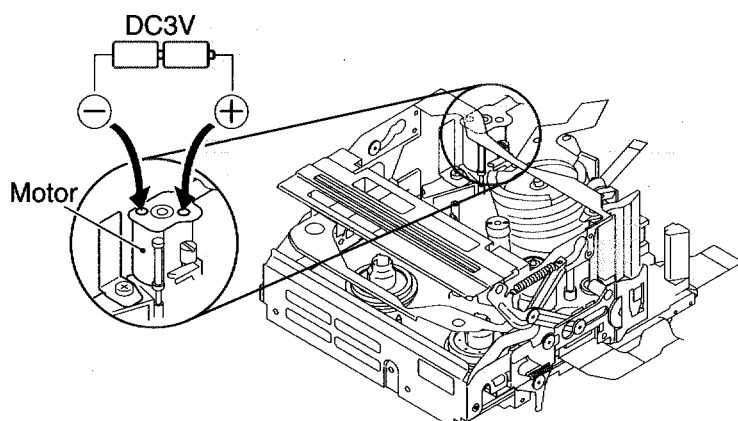
2.2.1 General statement

The mechanism should generally be disassembled/assembled in the EJECT mode (ASSEMBLY mode). (Refer to Fig. 2-2-1.)

However, when the mechanism is removed from the main body, it is set in the STOP mode. Therefore, it is required to

shift the mechanism mode from the STOP mode to the EJECT mode after the mechanism is removed from the main body. In such the case, supply 3 V DC to the electrode on the top of the loading motor to enter the mechanism mode into the EJECT mode.

<Mechanism assembly/Cassette housing assembly>



<Back side of the mechanism assembly>

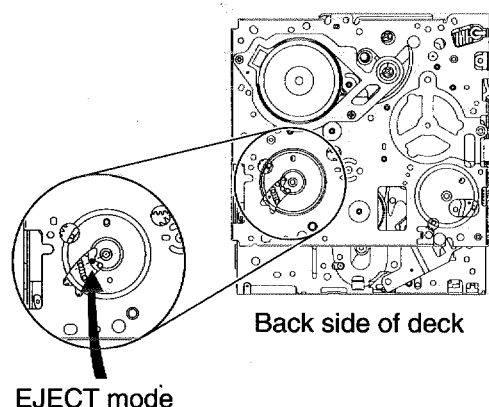


Fig. 2-2-1

2.2.2 Explanation of mechanism mode

The mechanism mode of this model is classified into six modes as shown in Table 2-2-1. Each mechanism mode can be distinguished from others by the relative position of "●" mark on the sub cam gear to the inner or outer protrusion on the main deck.

Refer to Fig. 2-2-2 to 2-2-7 below.

The EJECT mode, C IN mode and SHORT FF mode should be recognized by the relative position of the "●" mark to the inner protrusion, while the STOP mode, REV mode and PLAY mode should be recognized by that to the outer protrusion.

<EJECT mode>

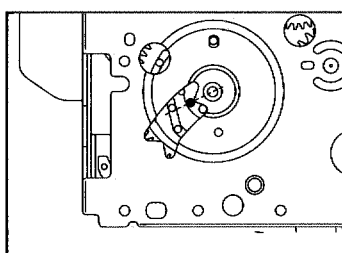


Fig. 2-2-2

<C IN mode>

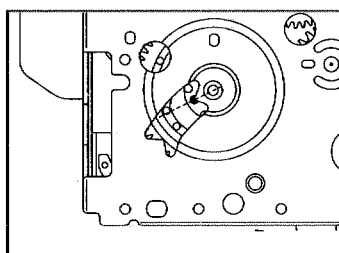


Fig. 2-2-3

<SHORT FF mode>

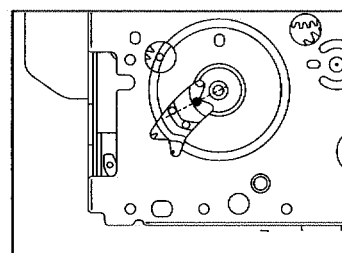


Fig. 2-2-4

<STOP mode>

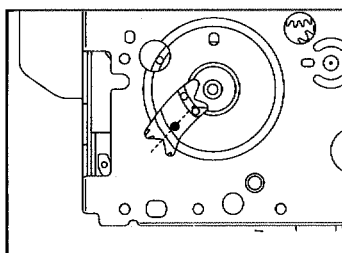


Fig. 2-2-5

<REV mode>

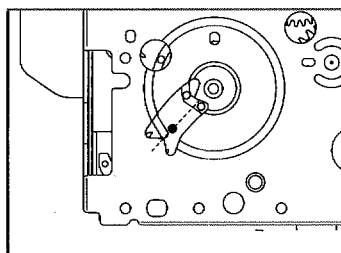


Fig. 2-2-6

<PLAY mode>

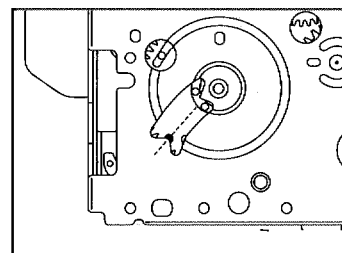


Fig. 2-2-7

2.2.3 Mechanism timing chart

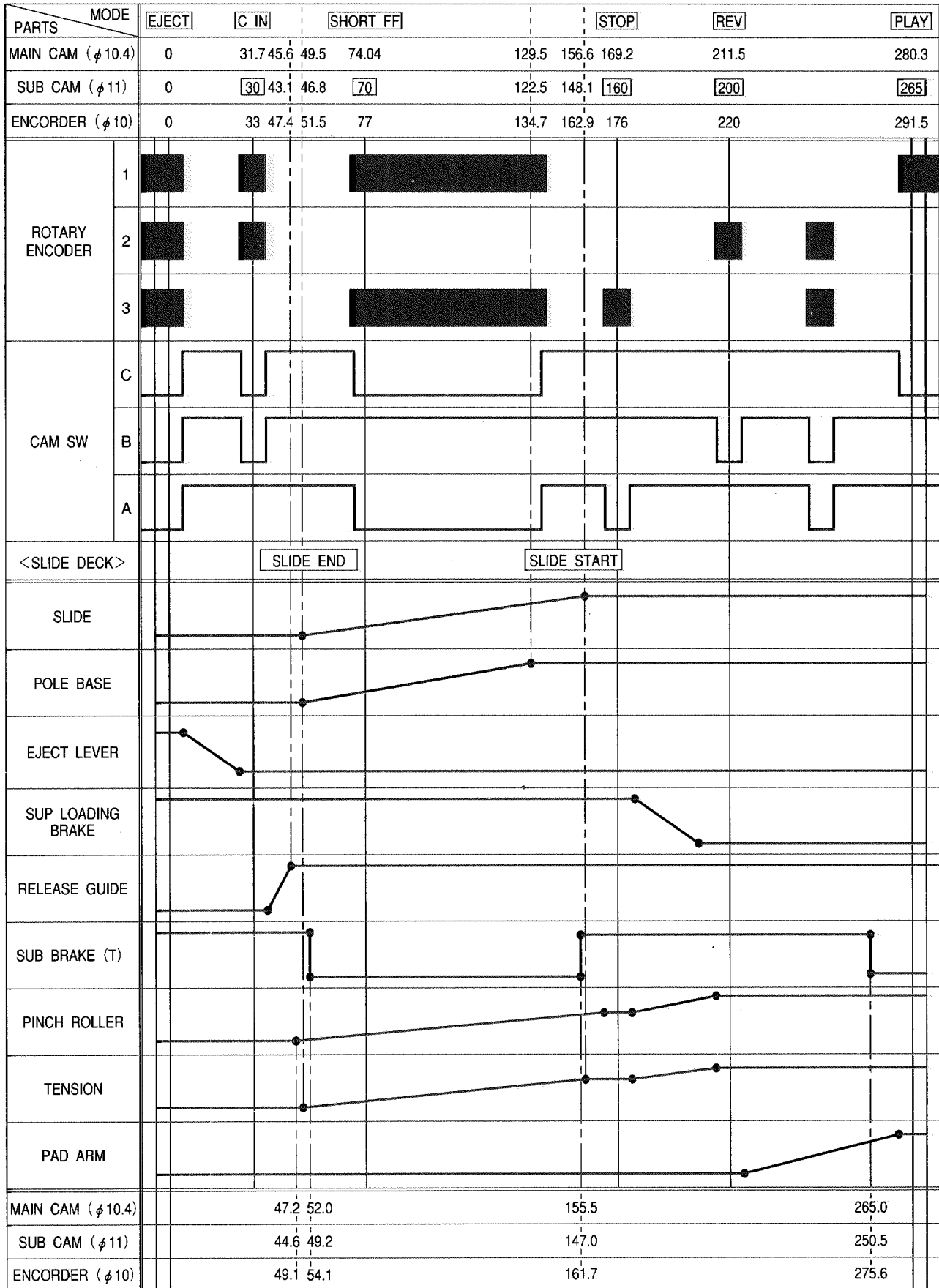


Table 2-2-1

2.2.4 Disassembly/assembly of mechanism assembly

1. Configuration

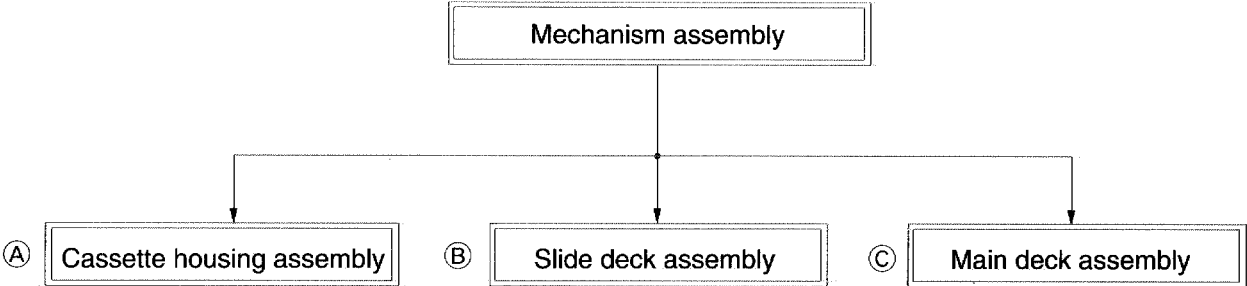


Fig. 2-2-8

2. Procedures for disassembly

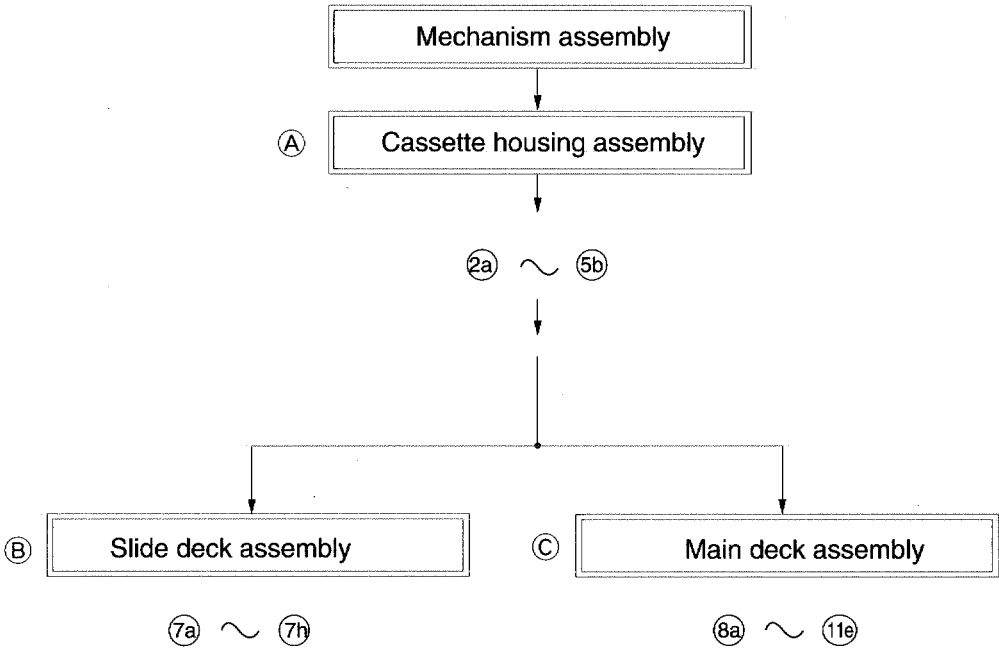


Fig. 2-2-9

3. Disassembling procedure table

Step	Part Name		Fig.	Point	Note	Remarks
Ⓐ Cassette housing assembly		T	Fig. 2-2-12	3(S1),(L1a)-(L1d)	1a, 1b, 1c, 1d	Adjustment
Ⓐ2a	Reel disk (SUP) assembly	T	Fig. 2-2-13	(W2)	2a, 2b	
Ⓐ2b	Reel disk (TU) assembly	T	Fig. 2-2-13	(W2)	2a, 2b	
Ⓐ2c	Reel cover assembly	T	Fig. 2-2-13	(S2b),2(S2a),(W2)	2d	
Ⓐ3a	Tension arm assembly	T	Fig. 2-2-14	(W3a)	3b	
Ⓐ3b	Release guide assembly	T	Fig. 2-2-14	-	3a	
Ⓐ3c	Idler arm assembly	T	Fig. 2-2-14	(W3b)	-	
Ⓐ3d	Guide arm assembly	T	Fig. 2-2-14	-	3a	
Ⓐ3e	Pinch roller arm assembly	T	Fig. 2-2-14	(W3a)	-	
Ⓐ4a	Cleaner arm assembly	T	Fig. 2-2-15	(L4a)	4a	
Ⓐ4b	Slant pole arm assembly	T	Fig. 2-2-15	(W4),(L4b),(P4a),(P4b)	4c	
Ⓐ4c	Drum assembly	T	Fig. 2-2-15	3(S4)	4b	
Ⓐ5a	Guide roller (S) assembly	T	Fig. 2-2-16	(P5)	5a, 5b	
Ⓐ5b	Rail assembly	T	Fig. 2-2-16	3(W5)	5c, 5d	
Ⓑ Slide deck assembly / Ⓒ Main deck assembly		T	Fig. 2-2-17	(W6),(L6a)-(L6d)	6a, 6b	(Adjustment)
Ⓑ Slide deck assembly						
Ⓑ7a	Loading brake assembly	T	Fig. 2-2-18	(W7),(L7a),(P7a)	7e	Adjustment
Ⓑ7b	Guide pin (SUPPLY)	T	Fig. 2-2-18	(S7a)	-	
Ⓑ7c	Pad arm assembly	T	Fig. 2-2-18	(W7),(L7b),(P7b)	7d	
Ⓑ7d	Slide guide plate assembly	T	Fig. 2-2-18	(S7b)	7c	Adjustment
Ⓑ7e	Collar	T	Fig. 2-2-18	-	7a	
Ⓑ7f	Collar	T	Fig. 2-2-18	-	7a	
Ⓑ7g	Sub brake assembly	T	Fig. 2-2-18	(W7),(L7c),(P7c)	7b	
Ⓑ7h	Control plate assembly	T	Fig. 2-2-18	2(W7),(L7d),(P7d)	7b	
Ⓒ Main deck assembly						
Ⓒ8a	Tension lever assembly	T	Fig. 2-2-19	-	8c	
Ⓒ8b	Slide lever assembly	T	Fig. 2-2-19	-	8b	
Ⓒ8c	Brake control lever assembly	T	Fig. 2-2-19	-	8a	
Ⓒ9a	Loading guide	T	Fig. 2-2-20	(S9)	-	
Ⓒ9b	Timing belt	T	Fig. 2-2-20	-	9b	
Ⓒ9c	Center gear assembly	T	Fig. 2-2-20	-	-	
Ⓒ9d	Motor bracket assembly	T	Fig. 2-2-20	2(S9)	9a	
Ⓒ9e	Worm wheel	T	Fig. 2-2-20	(W9)	-	(Phase adjustment)
Ⓒ9f	Gear holder	T	Fig. 2-2-20	(S9)	-	
Ⓒ10a	Main cam gear	T	Fig. 2-2-21	(S10)	10b	Phase adjustment
Ⓒ10b	Brake control plate	T	Fig. 2-2-21	(L10)	10b	Phase adjustment
Ⓒ10c	Rotary encoder	T	Fig. 2-2-21	(S10),(W10a)	10a	Phase adjustment
Ⓒ10d	Connect gear	T	Fig. 2-2-21	(W10a)	-	(Phase adjustment)
Ⓒ10e	Reel drive pulley assembly	T	Fig. 2-2-21	(W10b)	-	
Ⓒ11a	Catcher (T) assembly	T	Fig. 2-2-22	2(S11)	-	
Ⓒ11b	Capstan motor	T	Fig. 2-2-22	2(S11)	-	
Ⓒ11c	Charge arm assembly	T	Fig. 2-2-22	(W11)	11	
Ⓒ11d	Sub cam gear	T	Fig. 2-2-22	(S11)	-	Phase adjustment
Ⓒ11e	PWB holder	B	Fig. 2-2-22	2(S11)	-	

Table 2-2-2

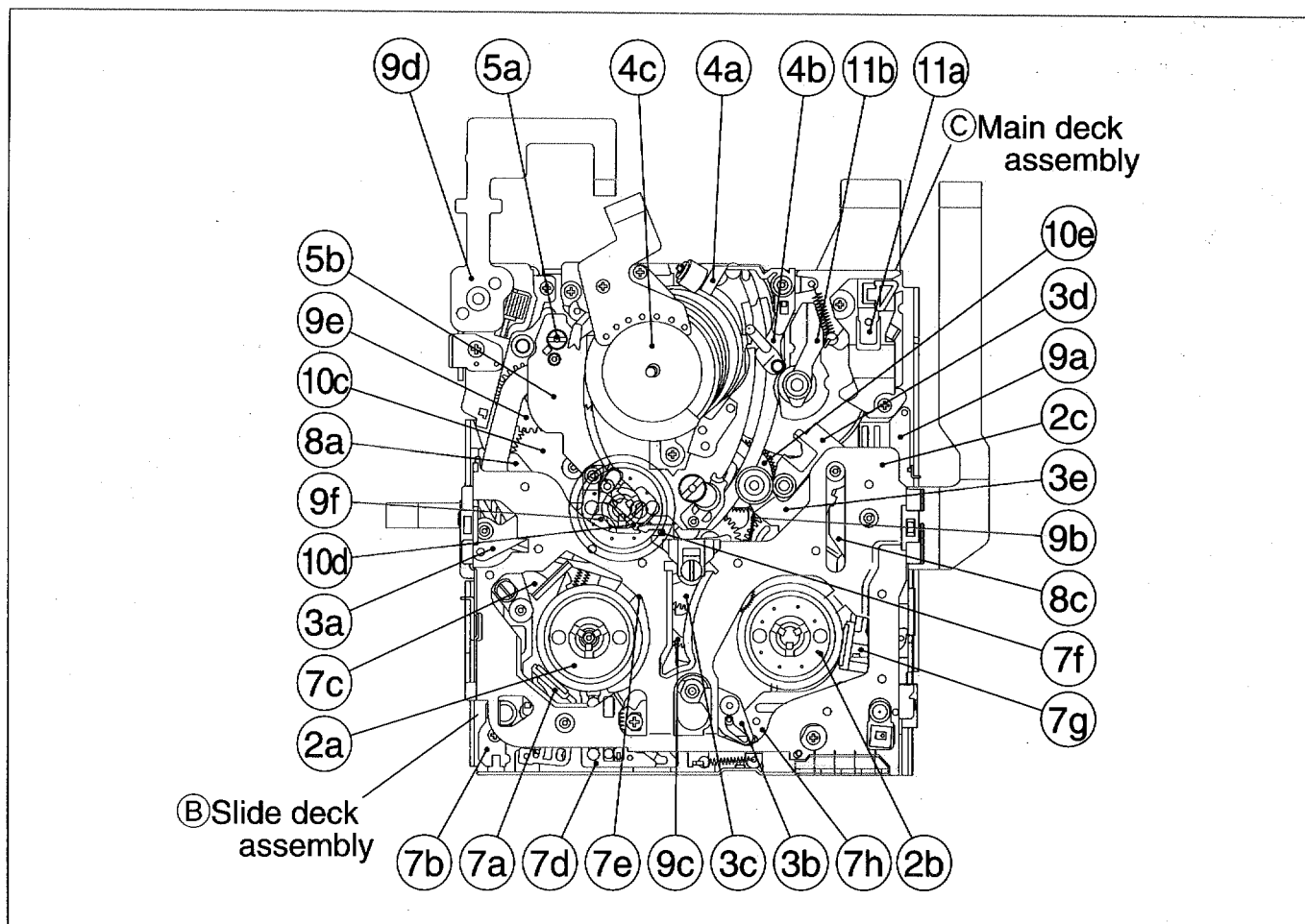


Fig. 2-2-10 Top view

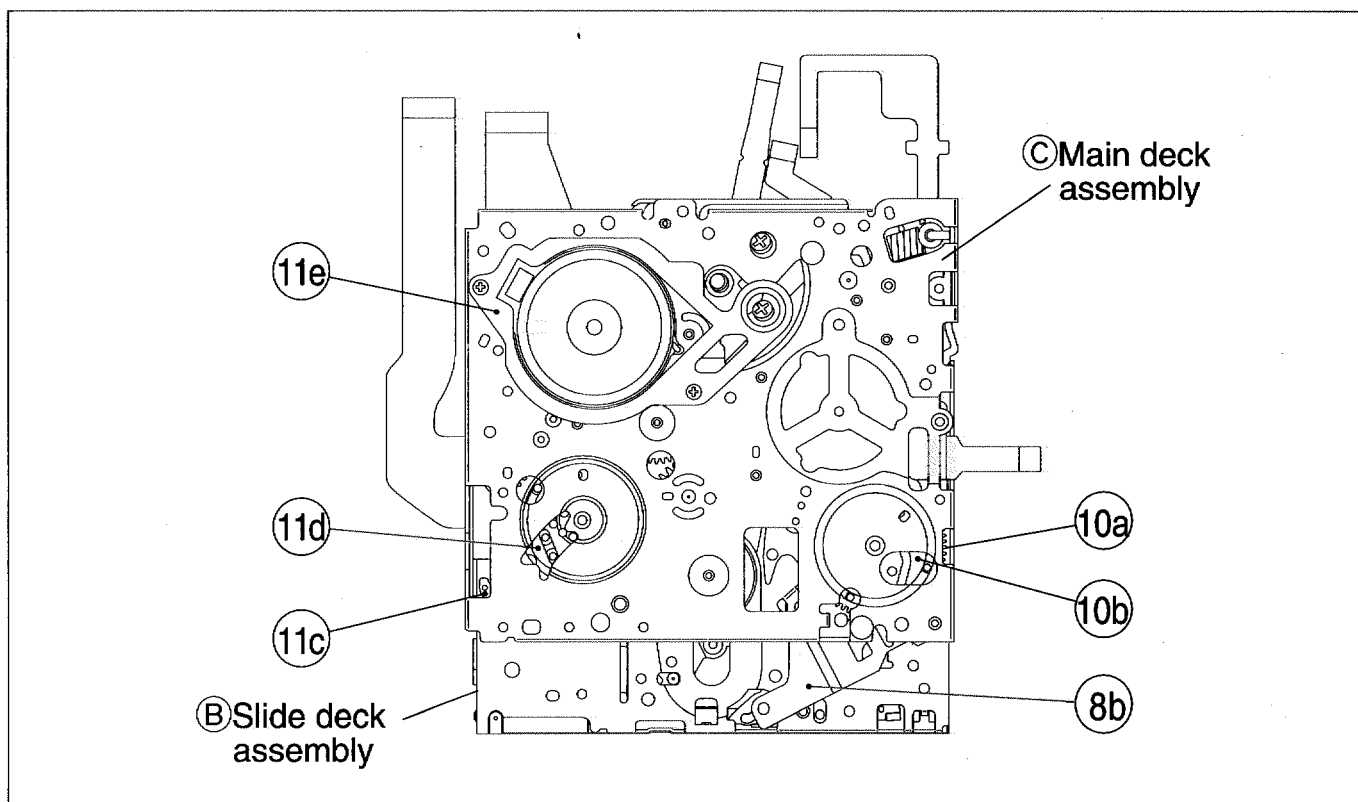


Fig. 2-2-11 Bottom view

2.2.5 Disassembly/assembly

1. ① Cassette housing assembly

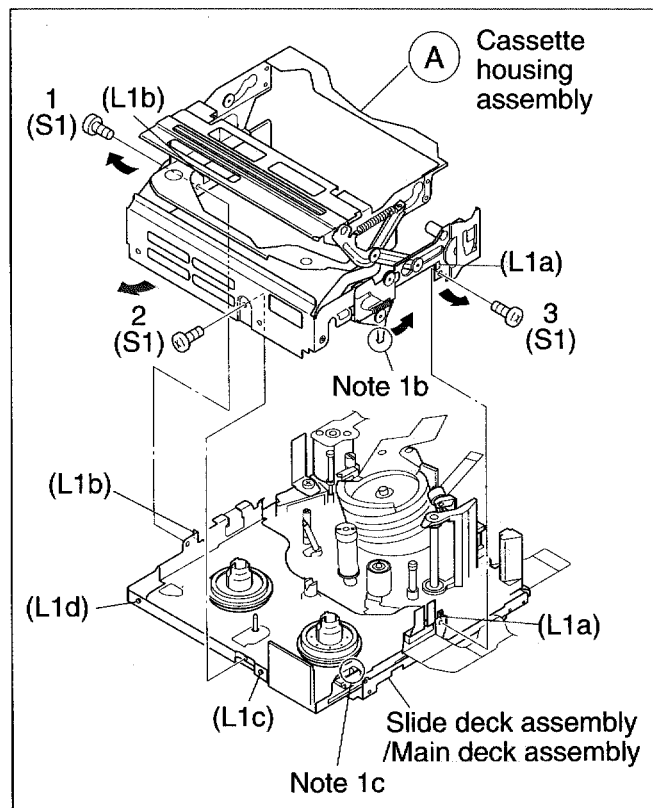


Fig. 2-2-12

2. ②a Reel disk (SUP) assembly

②b Reel disk (TU) assembly

②c Reel cover assembly

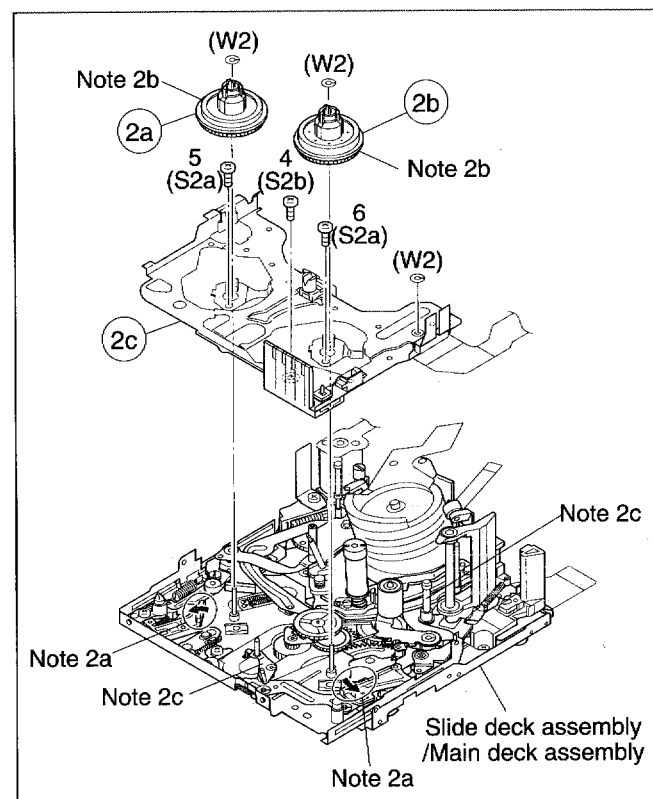
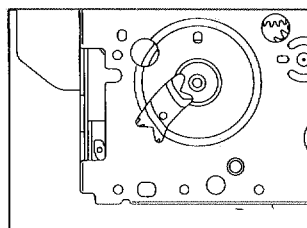
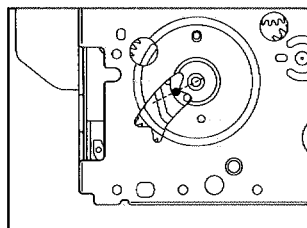


Fig. 2-2-13

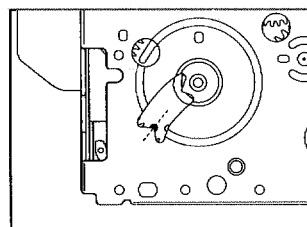
<STOP mode>



<EJECT mode>



<PLAY mode>



Note 1a:

Shift the mechanism mode from the STOP mode to the EJECT mode.

Note 1b:

Reassemble the cassette housing assembly to the mechanism as the cancel lever is moved in the direction of the arrow.

Note 1c:

When reassembling the cassette housing to the mechanism, make sure that there is no deformation in the frame or no damage to the switches, etc.

Note 1d:

After reassembling the component parts, check the mechanism operation in the PLAY mode.

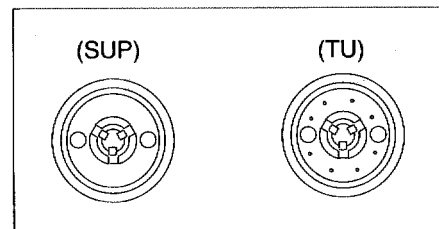
For details of checking method, refer to "2.2.8 assembling slide deck assembly and main deck assembly".

Note 2a:

When removing the reel disk assembly, be careful not to break the brake pad which applies lateral pressure to the reel disk.

Note 2b:

Be careful not to make a mistake in installing the reel disk. The SUP reel disk and TU reel disk can be distinguished from each other by the appearance as shown below.



Note 2c:

When removing the reel cover assembly, pay heed to the guide arm assembly. For, the guide arm assembly is just inserted into the slide deck assembly from the upside and it is apt to come off after the reel cover assembly is removed.

Note 2d:

When fitting the reel cover assembly to the set, carefully tighten the screw with the specified tightening torque of 0.068N·m (0.7kgf·cm).

3. (3a) Tension arm assembly/ (3b) Release guide assembly
 (3c) Idler arm assembly/ (3d) Guide arm assembly
 (3e) Pinch roller arm assembly

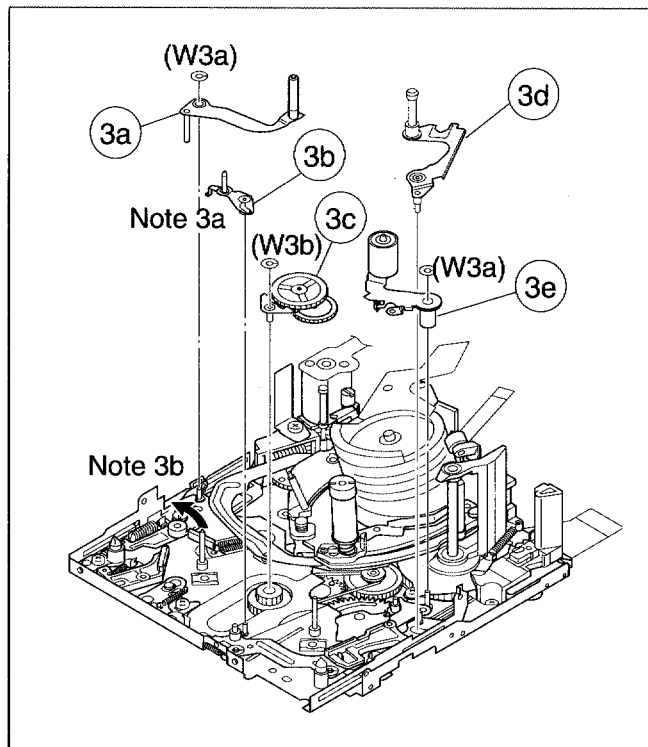


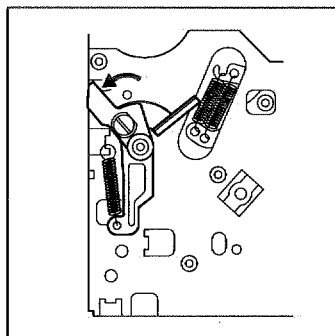
Fig. 2-2-14

Note 3a:

When removing the reel cover assembly, pay heed to release guide assembly and guide arm assembly. For, the guide arm assembly is just inserted into the slide deck assembly from the upside and it is apt to come off after the reel cover assembly is removed.

Note 3b:

Reassemble the tension arm assembly to the mechanism as the pad arm assembly is moved to the extent in the direction of the arrow.



4. (4a) Cleaner arm assembly/ (4b) Slant pole arm assembly
 (4c) Drum assembly

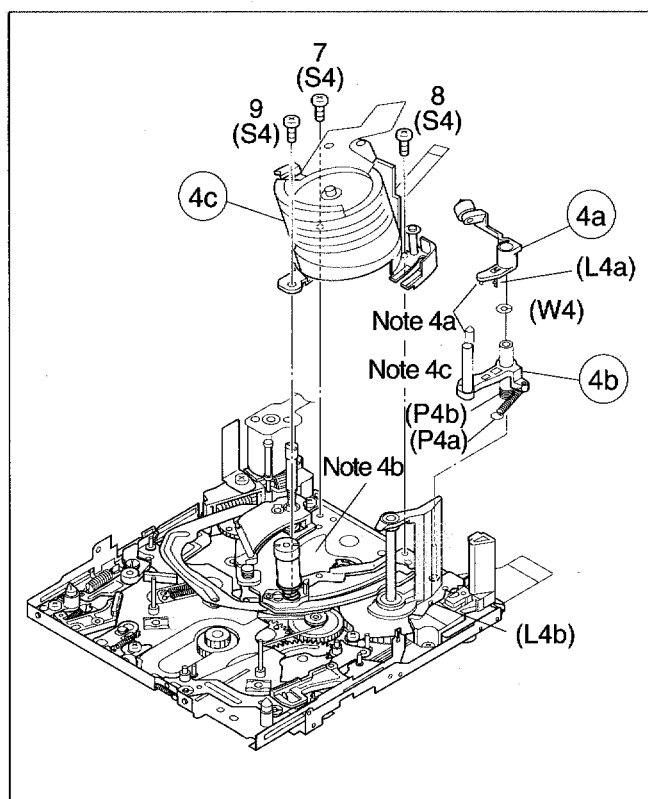


Fig. 2-2-15

Note 4a:

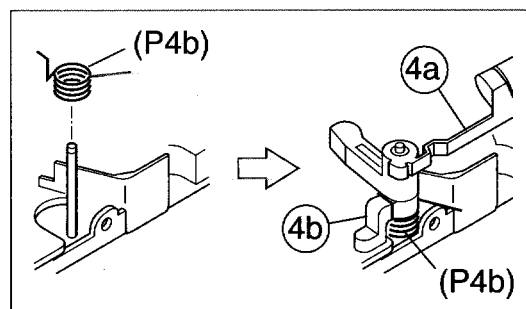
When removing the cleaner arm assembly, it is recommended to remove the slant pole arm assembly together with it except the case of a single unit replacement, because the hook (L4a) is hard to disengage.

Note 4b:

When the shield is applied, carefully remove the drum final assembly because the drum is stuck to the shield.

Note 4c:

How to set the coil spring (P4b).



5. 5a Guide roller (SUPPLY) assembly/ 5b Rail assembly

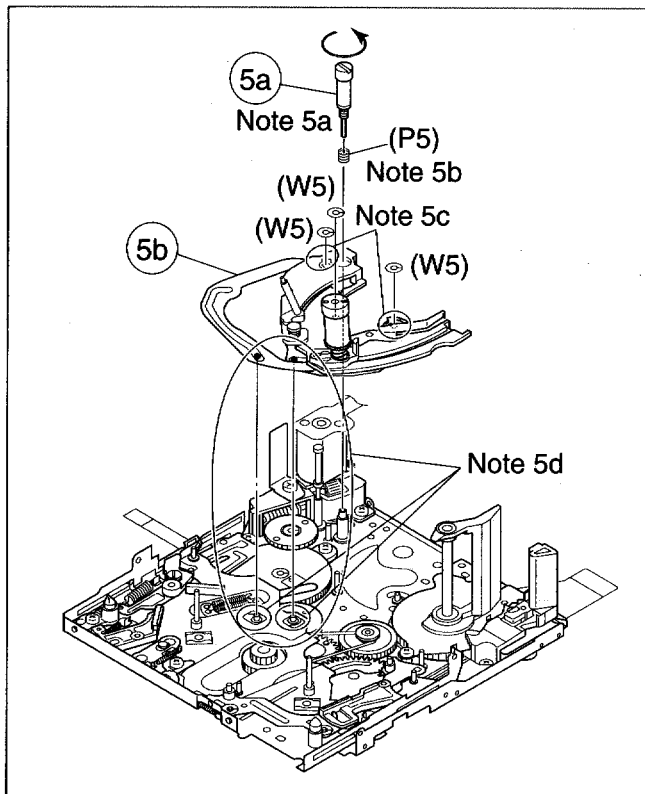


Fig. 2-2-16

Note 5a:

When removing the rail assembly, remove the guide roller (SUPPLY) assembly beforehand.

Note 5b:

Pay careful attention to the spring not to lose it.

Note 5c:

Pay careful attention to the engagement of the rail assembly's arm ends because they easily come off the engagement. Moreover, make sure that there is neither deformation nor damage observed in them.

Note 5d:

When removing the rail assembly, check to see if the collar is securely set in the arm groove.

6. B Slide deck assembly/ C Main deck assembly

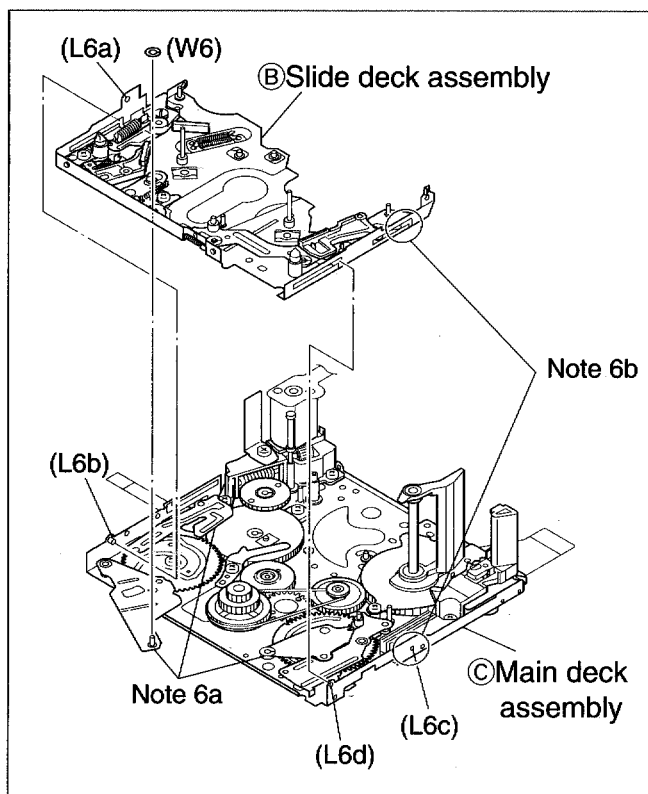


Fig. 2-2-17

Note 6a:

When removing the slide deck assembly, pay heed to the three components of the following because they are apt to come off after the slide deck assembly is removed.

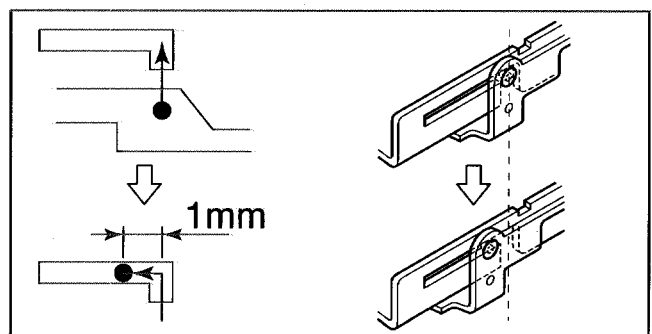
8a Tension lever assembly/ 8b Slide lever assembly

8c Brake control lever assembly

For reassembling those components, refer to Fig. 2-2-19 on page 2-10.

Note 6b:

When reassembling the slide deck assembly to the main deck assembly, combine them with each other by the side grooves and then slide the slide deck assembly by 1 mm or so.



7. (7a) Loading brake assembly/ (7b) Guide pin (S)
 (7c) Pad arm assembly/ (7d) Slide guide plate assembly
 (7e) Collar/ (7f) Collar/ (7g) Sub brake assembly
 (7h) Control plate assembly

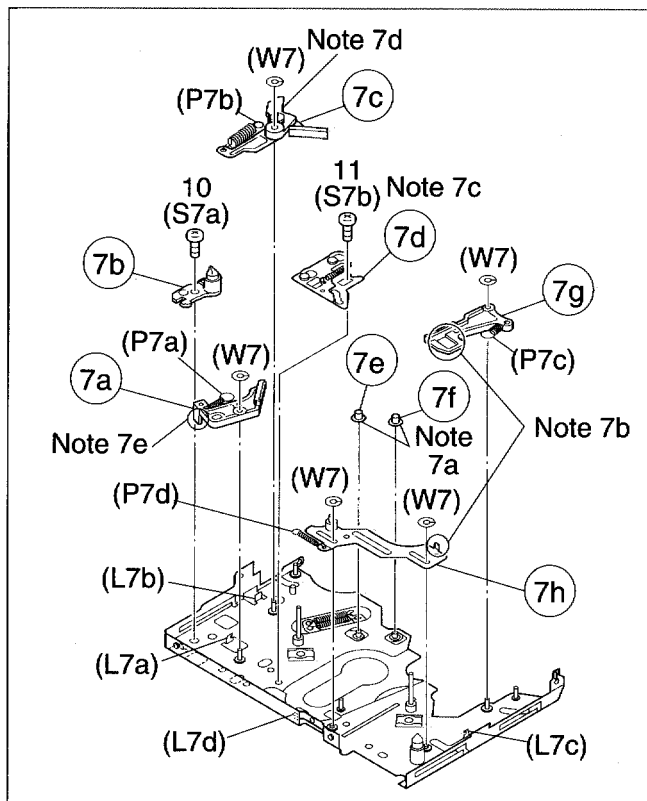


Fig. 2-2-18

8. (8a) Tension lever assembly/ (8b) Slide lever assembly
 (8c) Brake control lever assembly

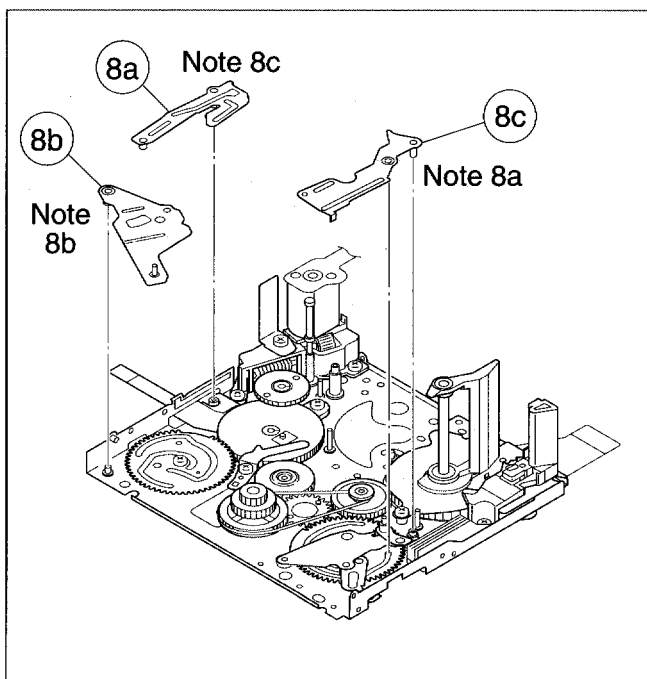


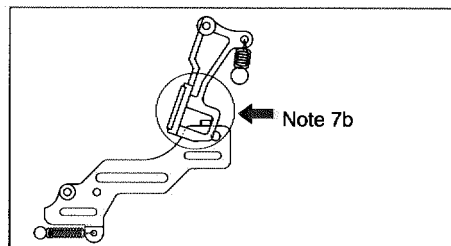
Fig. 2-2-19

Note 7a:

Don't remove these parts unreasonably. If they are removed for some reason, be very careful not to lose them.

Note 7b:

When reinstalling the sub brake assembly, set the control plate assembly so that its hook is set in the  part of the sub brake assembly.



Note 7c:

Since the slide guide plate assembly controls the slide deck assembly so that it exactly slides the main deck assembly, it must exactly be assembled in the PLAY mode. Therefore, temporarily fix the slide guide plate assembly in this stage. For details of reassembling procedure, refer to "2.2.8 Assembling slide deck assembly and main deck assembly" on page 2-15.

Note 7d:

The pad arm assembly controls the tension level of the tension arm assembly. For adjustment of the tension arm assembly, refer to page 2-8.

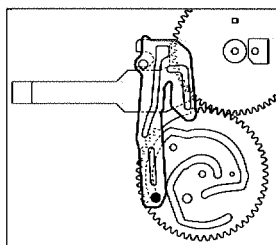
Note 7e:

When reinstalling the load brake assembly, slightly lift the slide deck assembly upwards because the lower part of the load brake assembly sticks out of the slide deck assembly.

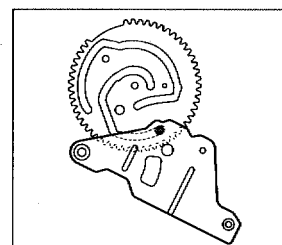
Note 8a, 8b, 8c:

For refitting the respective parts, refer to the following figures

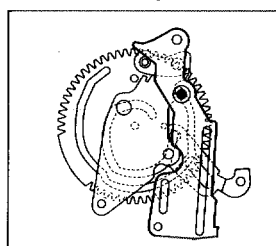
(8a) Tension lever assembly



(8b) Slide lever assembly



(8c) Brake control lever assembly



9. (9a) Loading guide/ (9b) Timing belt
 (9c) Center gear assembly/ (9d) Motor bracket assembly
 (9e) Worm wheel/ (9f) Gear holder

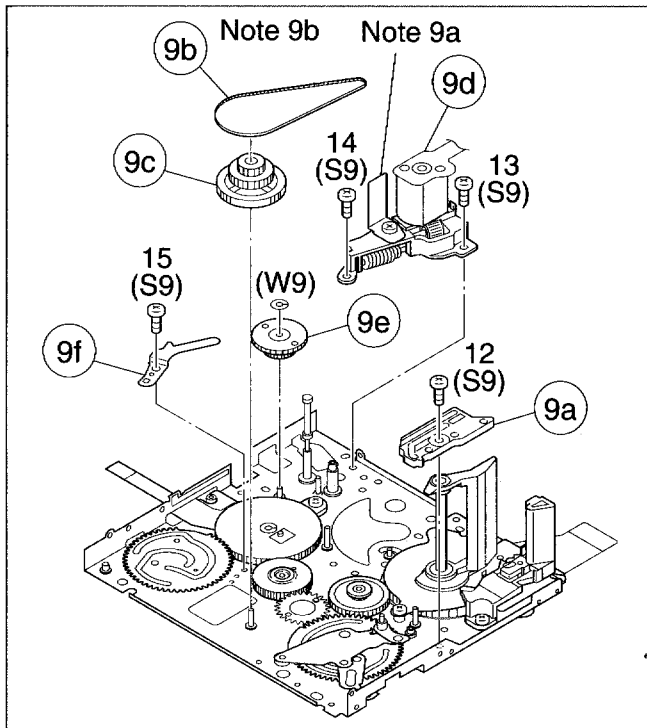


Fig. 2-2-20

Note 9a:

Carefully handle the DEW sensor. (Don't touch the sensor surface in particular.)

Note 9b:

When engaging the timing belt, make sure that it securely engages with the gears of both the center gear assembly and reel drive pulley assembly.

10. (10a) Main cam gear/ (10b) Brake control plate
 (10c) Rotary encoder/ (10d) Connect gear
 (10e) Reel drive pulley assembly

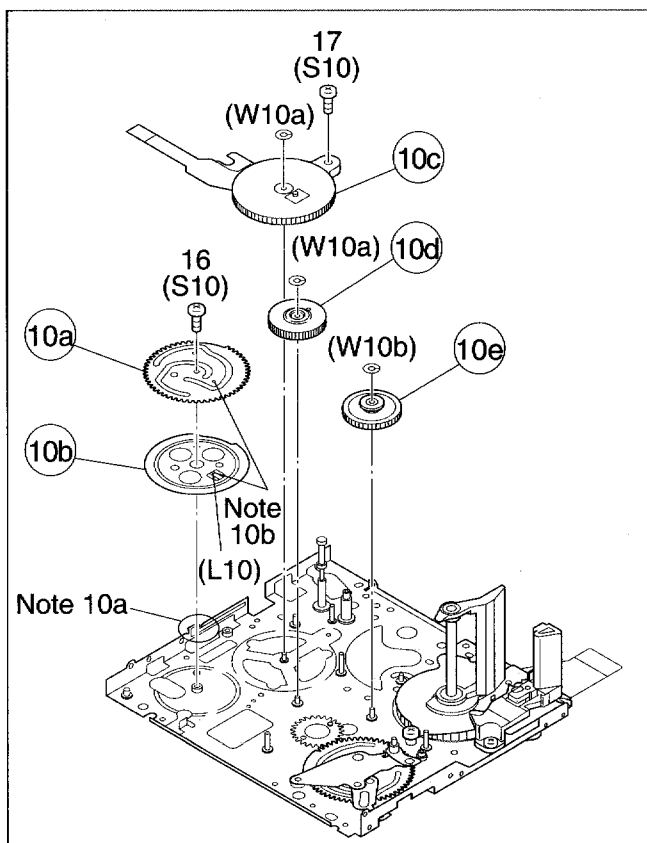


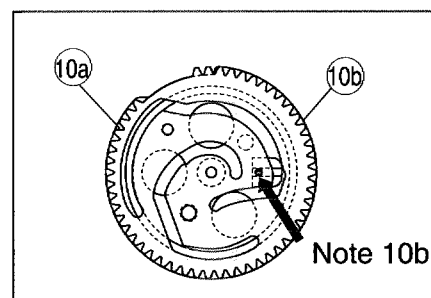
Fig. 2-2-21

Note 10a:

When removing/refitting parts, pay careful attention to the flexible board and so on not to damage them.

Note 10b:

When reinstalling the main cam gear and the brake control plate, first fit them together so that the protrusion on the brake control plate is set in the slot on the main cam gear as shown below, next install the two together to the main deck assembly.



11. (11a) Catcher (T) assembly/ (11b) Capstan motor
 (11c) Charge arm assembly/ (11d) Sub cam gear
 (11e) PWB holder

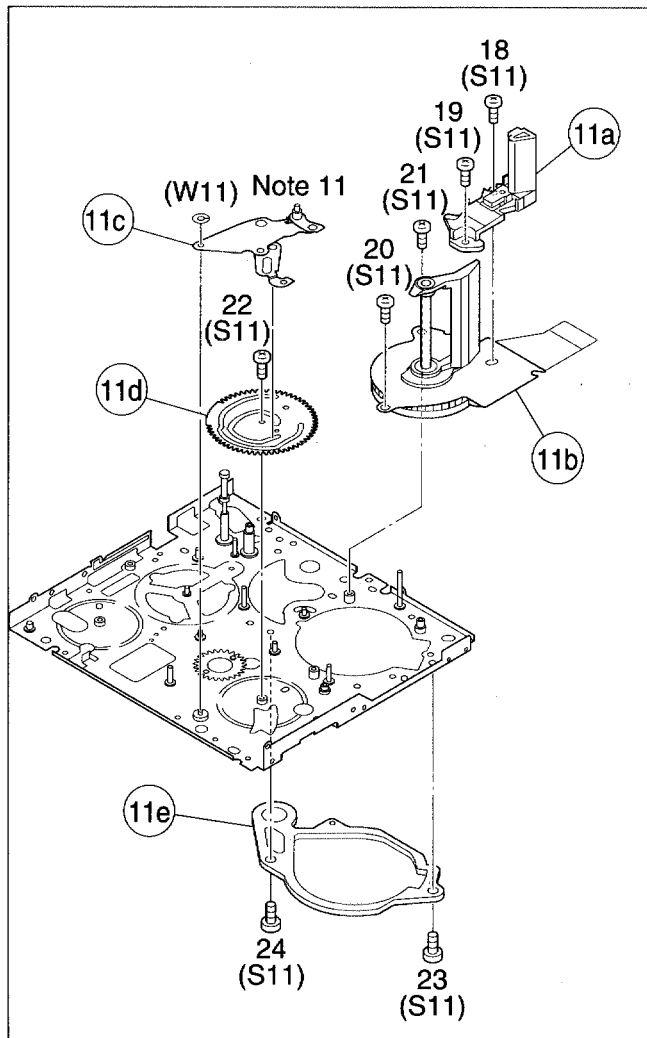
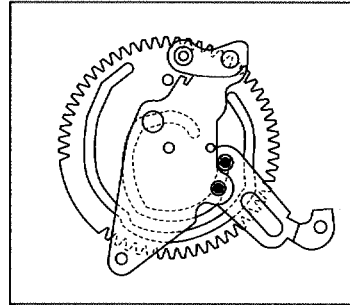


Fig. 2-2-22

Note 11:

The following figure shows how to put the charge arm assembly and sub cam gear assembly together.



2.2.6 List of procedures for disassembly

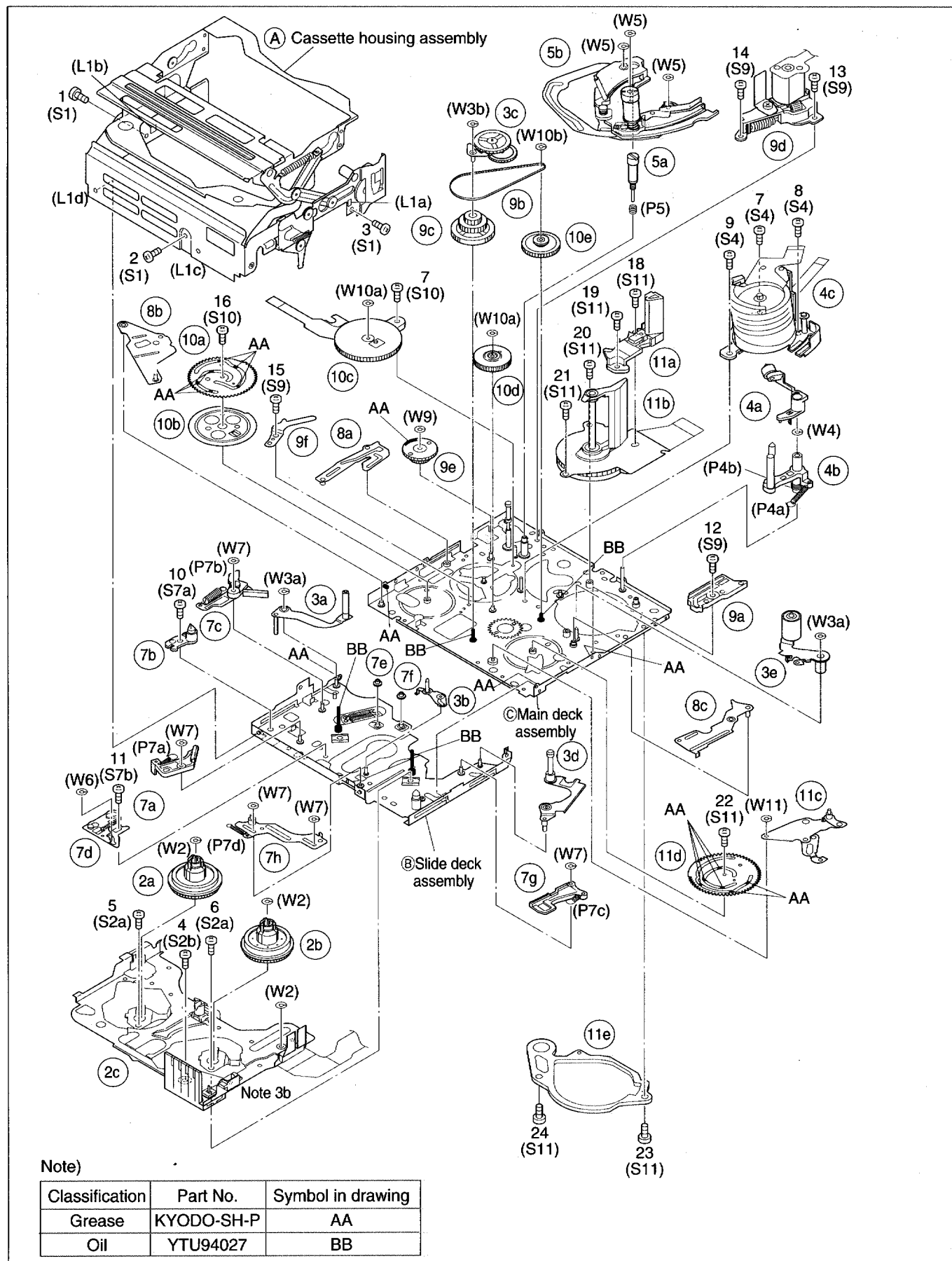


Fig. 2-2-23

2.2.7 Checkup and adjustment of mechanism phase

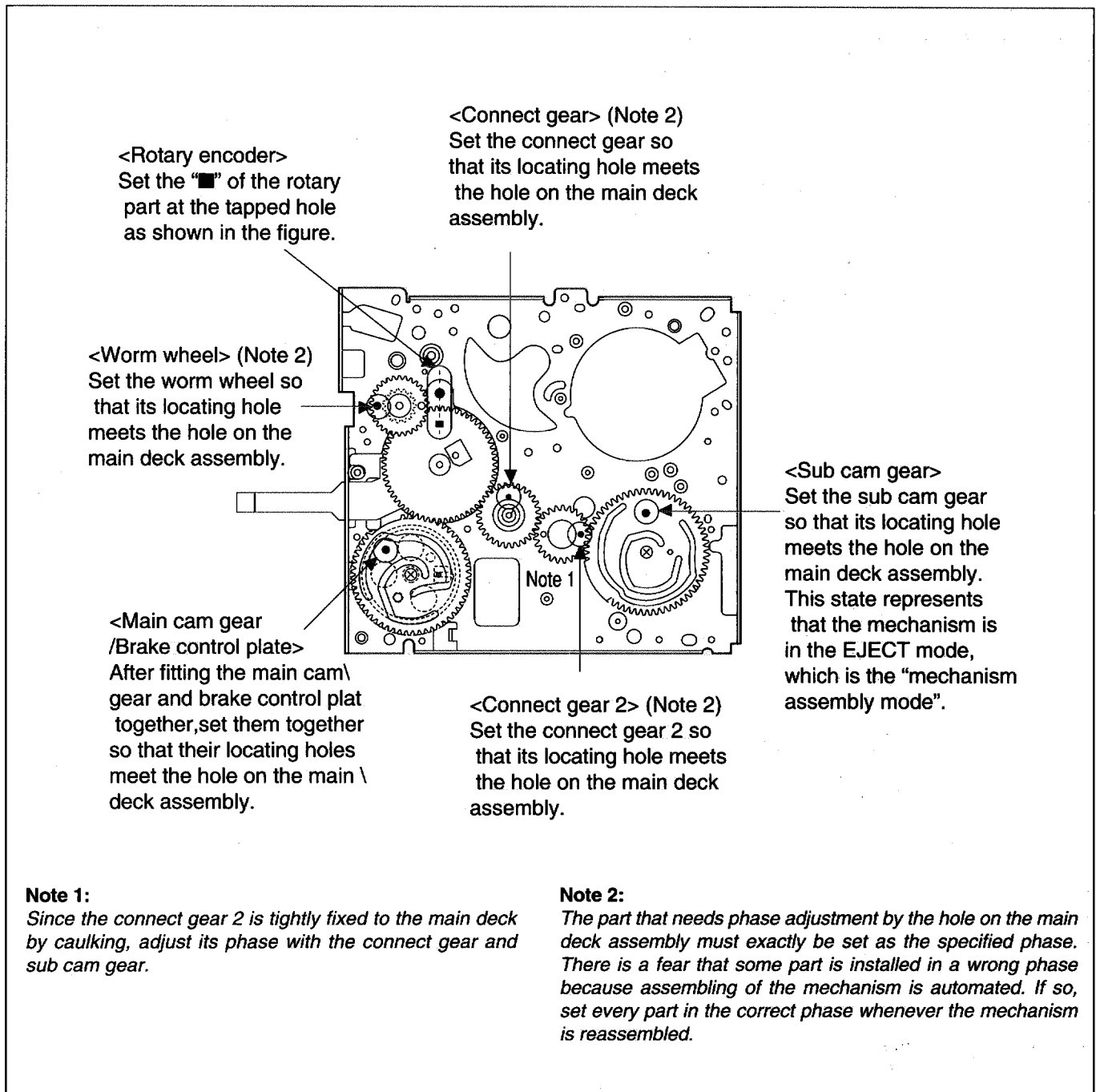


Fig. 2-2-24

2.2.8 Assembling slide deck assembly and main deck assembly

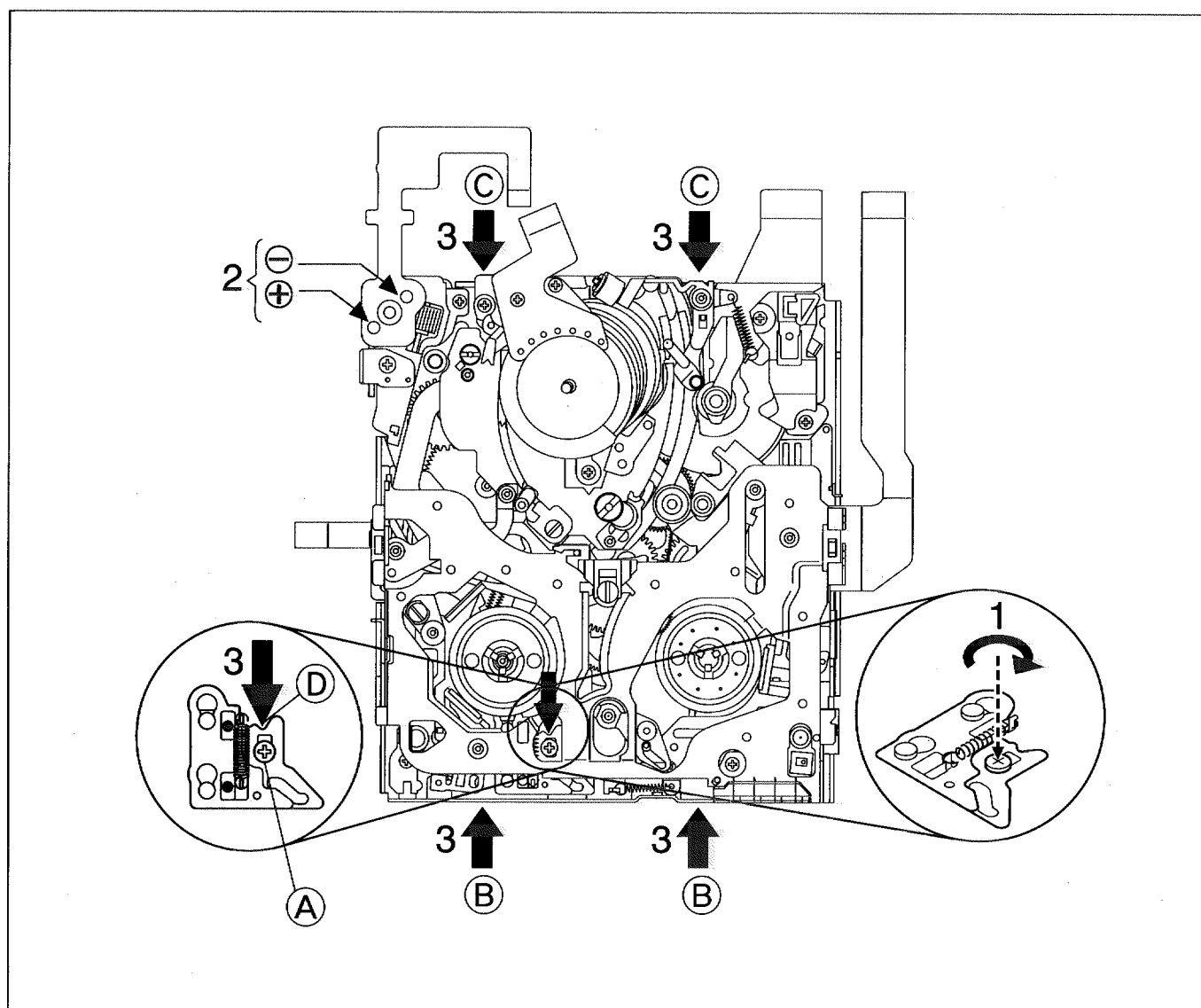


Fig. 2-2-25

Assembling procedure

1. Loosen the screw (A).
2. Set the mechanism in the PLAY mode. (Refer to page 2-2.)
3. Press the end face B of the slide deck assembly (reel disk side) and the end face C of the main deck assembly (drum assembly side) with uniform force so that the two assemblies are tightly pressed to each other. Furthermore, press the part D and tighten the screw A.

Note : Tightening torque for screw (A): 0.029 N·m (0.3 kgf·cm)

2.2.9 Locating tension pole

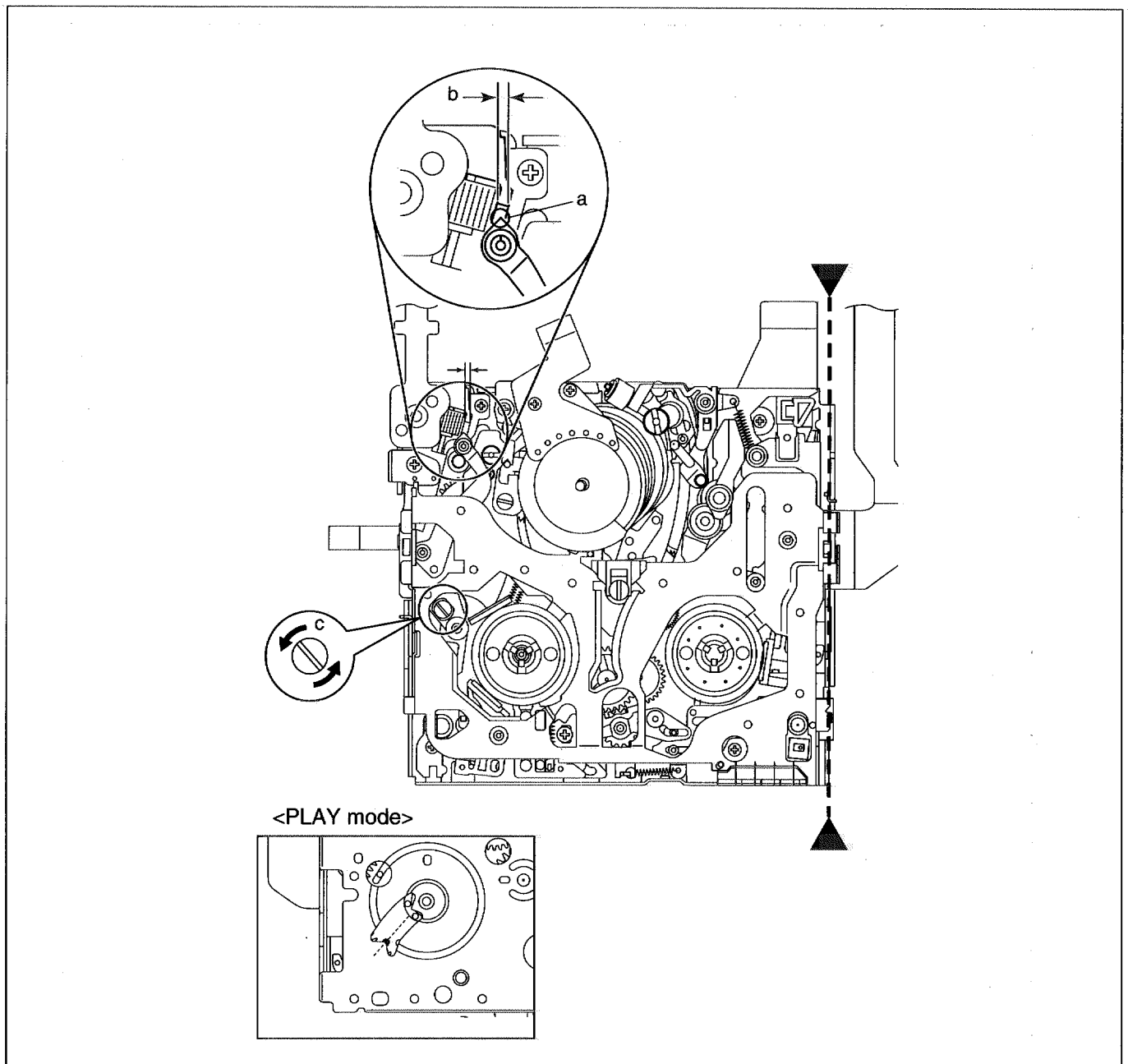


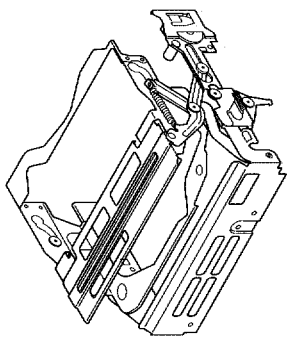
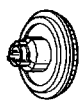
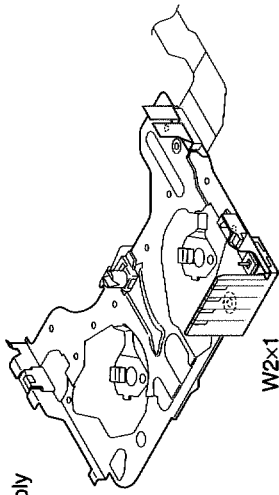
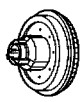
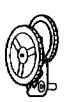
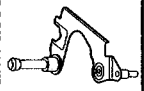
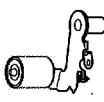
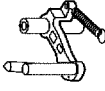
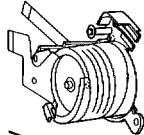
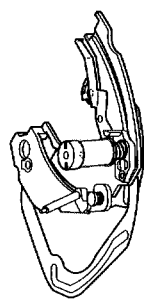
Fig. 2-2-26

Locating procedure

1. Enter the mechanism assembly into the PLAY mode.
(Refer to page 2-2.)
2. When the "▶-----◀" part is positioned down, make sure that the part "a" of the tension arm assembly is located within the range of "b".
3. If the part "a" is out of the range, turn the pin "c" to adjust the position.

2.3 SERVICE NOTE

Use the following chart to manage mechanism parts that are removed for disassembling the mechanism.

1	 ① Cassette housing assembly S1×3			
2	②a Reel disk (SUP) assembly  W2×1	②c Reel cover assembly  S2a×2 S2b×1 W2×1		
	②b Reel disk (TU) assembly  W2×1			
3	③a Tension arm assembly  W3a×1	③b Release guide assembly  W3b×1	③c Idle arm assembly  W3b×1	③d Guide arm assembly  W3a×1
			③e Pinch roller arm assembly  W3a×1	
4	④a Cleaner arm assembly  W4×1 P4a×1 P4b×1	④b Slant pole arm assembly  W4×1 P4a×1 P4b×1		④c Drum assembly  S4×3
	⑤a Guide roller (S) assembly  P5×1		⑤b Rail assembly  W5×3	

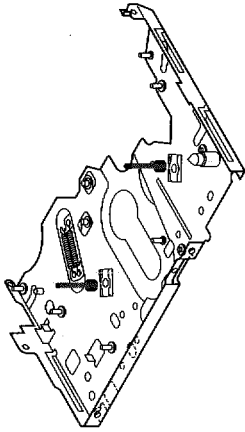
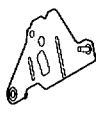
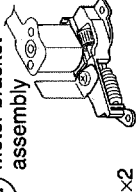
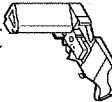
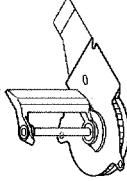
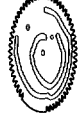
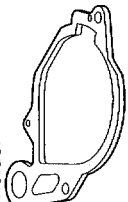
6	③ Slide deck assembly  W6x1	7	7a) Loading brake assembly  W7x1 P7ax1	7b) Guide pin (SUPPLY)  S7ax1	7c) Pad arm assembly  W7x1 P7bx1	7d) Slide guide plate assembly  S7bx1 W7x1
7			7e) Collar  W7x1 P7ax1	7f) Collar  S7ax1	7g) Sub brake assembly  W7x1 P7cx1	7h) Control plate assembly  W7x2 P7dx1
8	8a) Tension lever assembly  W6x1		8b) Slide lever assembly  W7x1 P7ax1		8c) Brake control lever assembly  W7x2 P7dx1	
9	9a) Loading guide  S9x1	9b) Timing belt  S9x1	9c) Center gear assembly  S9x2	9d) Motor bracket assembly  S9x2	9e) Worm wheel  W9x1	9f) Gear holder  S9x1
10	10a) Main cam gear  S10x1	10b) Brake control plate  S10x1	10c) Rotary encoder  S10x1 W10ax1	10d) Connect gear  W10ax1	10e) Reel drive pulley assembly  W10bx1	
11	11a) Catcher (T) assembly  S11x2	11b) Capstan motor  S11x2	11c) Charge arm assembly  W11x1	11d) Sub cam gear  S11x1	11e) PWB holder  S11x2	

Table 2-3-1

2.4 JIG CONNECTOR CABLE (YTU93082E) CONNECTOR

Remove one screw (1) first and the cover (JIG) next.

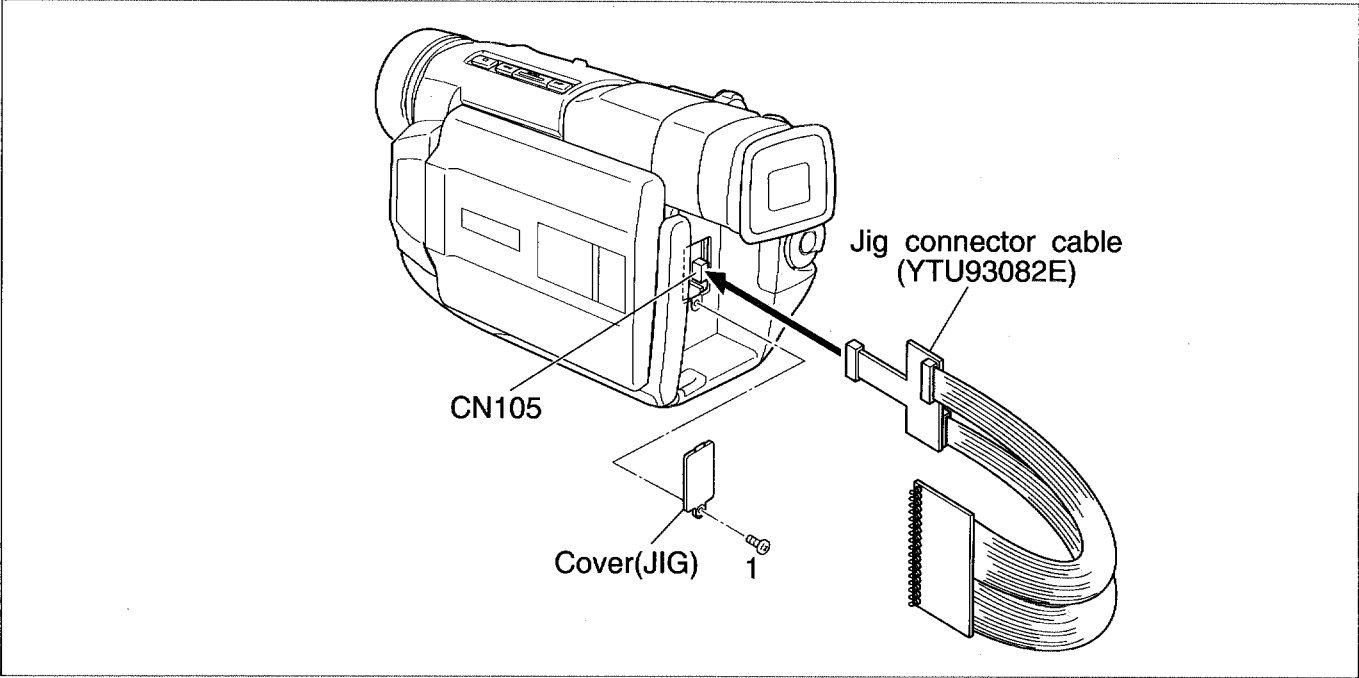


Fig. 2-4-1 Jig connector cable connection

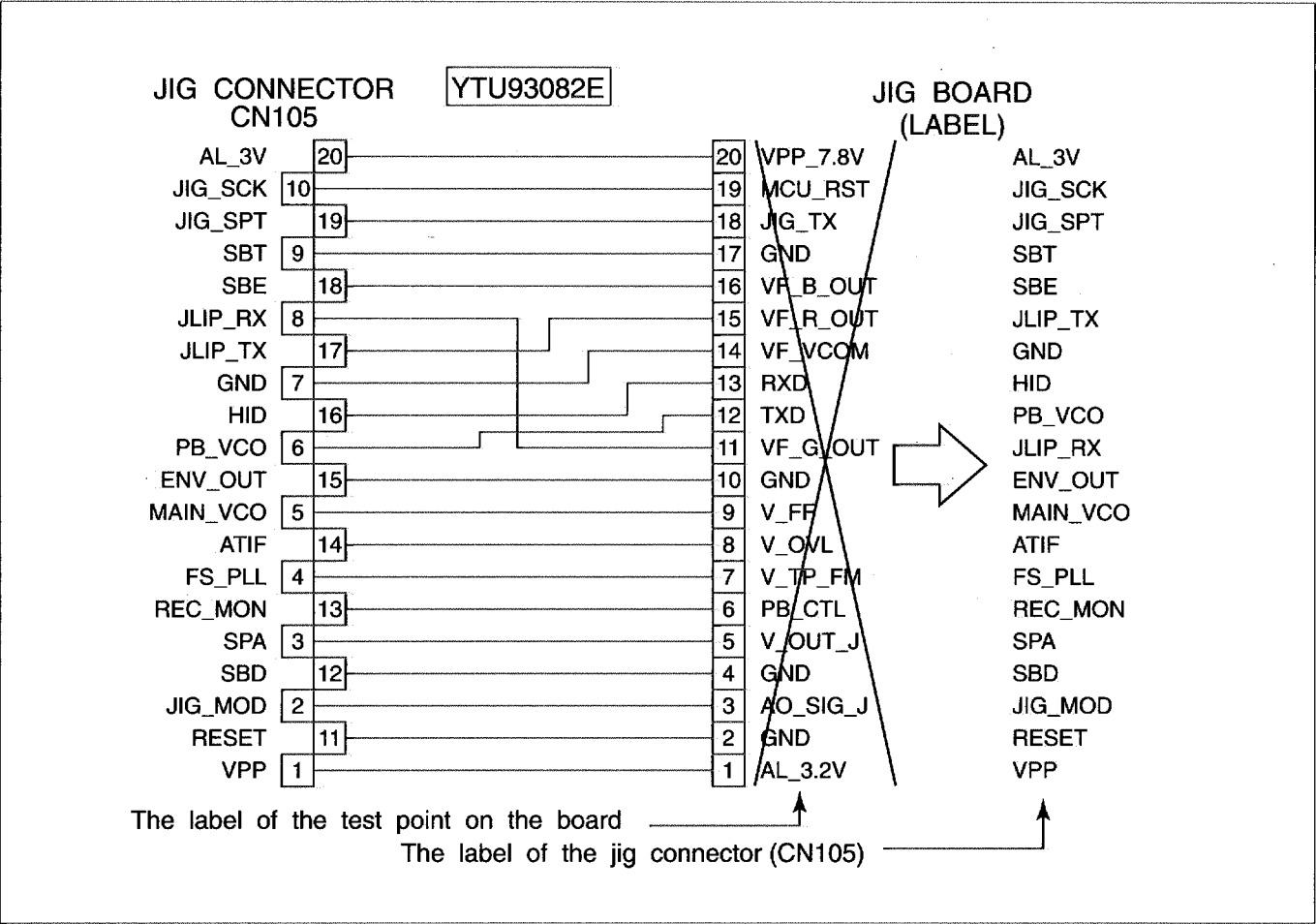


Fig. 2-4-2 Jig connector cable schematic diagram

SECTION 3 ELECTRICAL ADJUSTMENT

3.1 PREPARATION

1. Precaution

Both the camera and deck sections of this model needs a personal computer for adjustment except simple adjustment with potentiometers. If some of the following parts is replaced for repair or other reason, the repaired set must be adjusted with a personal computer.

- OP block
- E²PROM (IC1003 of MAIN board)
- MONITOR
- E²P ROM (IC7603 of MONITOR board)

In the event of malfunction with electrical circuits, troubleshooting with the aid of proper test instruments must be done first, and then commence necessary repair, replacement and adjustment, etc.

1. In case of wiring to chip test points for measurement, use IC clips, etc. to avoid any stress.
2. Since connectors are fragile, carefully handle them in disconnecting and connecting.
3. Shortcircuit between operation unit and DECK chassis.

3.3 SETUP

1. Setup for electrical adjustment with personal computer

2. Required test equipment

1. Color TV monitor.
2. AC power adapter/charger
3. Oscilloscope (dual-trace type, observable 100 MHz or higher frequency)

Note: It is recommended to use one observable 300 MHz or higher frequency.

4. Digital voltmeter
5. Frequency counter (with threshold level adjuster)
6. Personal computer

3. Required adjustment tools

For details of special jigs necessary for adjustment, refer to page 1-2 and 1-3 of the Section 1.

3.2 E. VF SECTION ADJUSTMENT (B/W VF ONLY)

Referring to "SEC. 1 DISASSEMBLY" and connect the E.VF FPC to CN7602 of the MONITOR board.

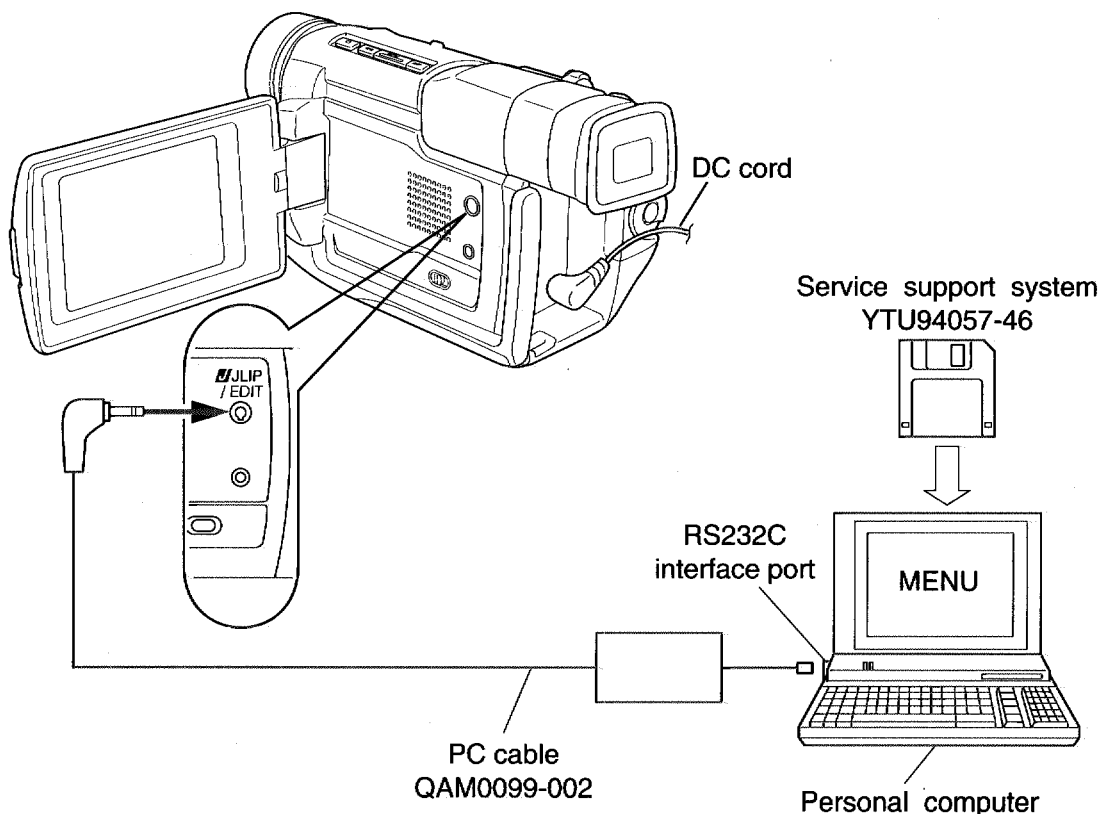


Fig. 3-3-1 Connection for Service support system (I)

2. Setup with patch cords and jig connector cables

NOTE:

Fig. 3-3-2 shows an example of expansion setup that facilitates inspection of major boards because main components are connected by means of patch cords and jig cables. For proceeding to electrical adjustment in such the setup,

disassemble the set at a certain level required for the current adjustment objectives referring to the section 1 "DISASSEMBLY" and properly set up the expanded set and test instruments.

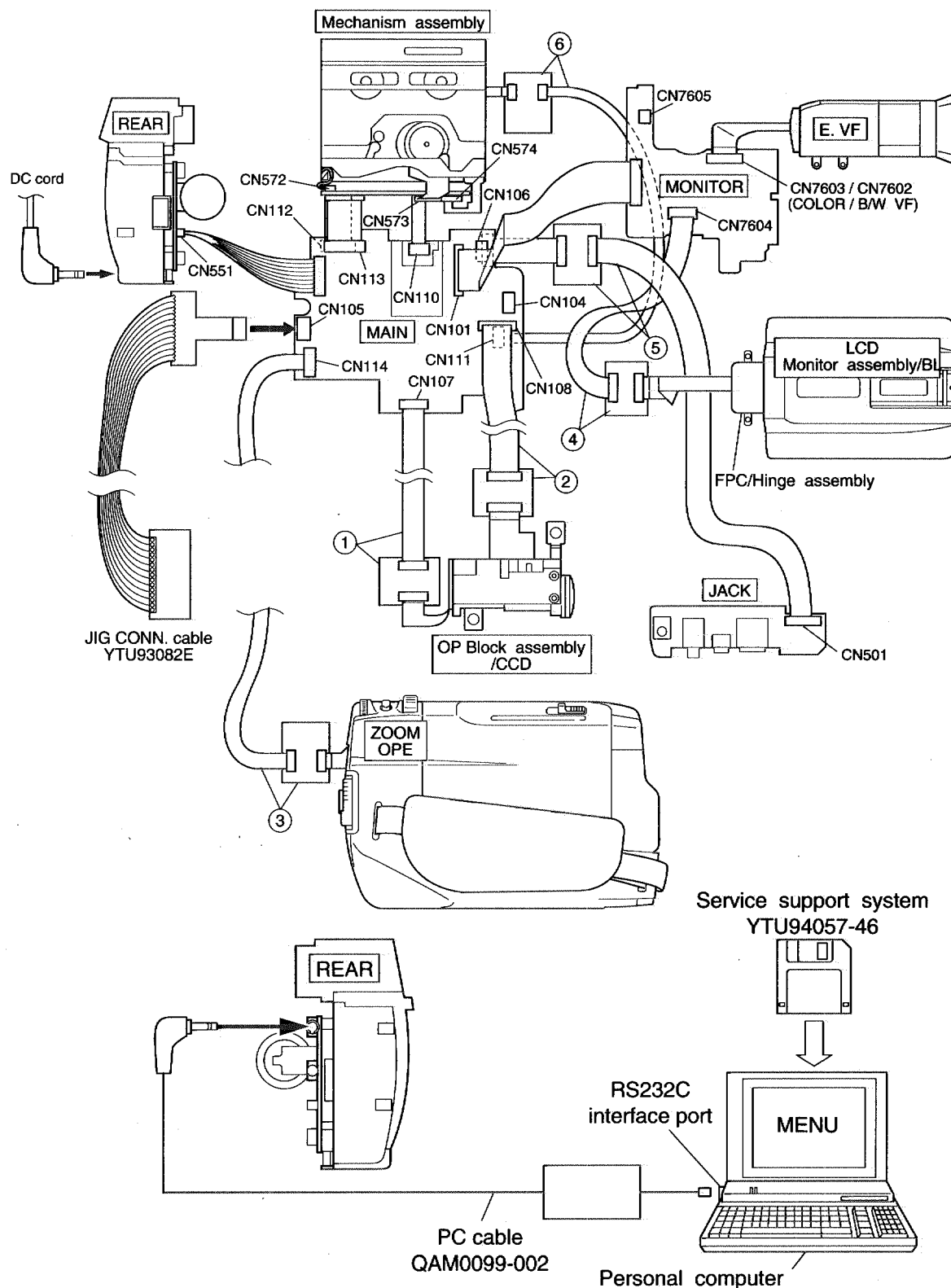


Fig. 3-3-2 Setup for electrical adjustment with personal computer (II)

3.4 ELECTRONIC VIEWFINDER (B/W VF) ADJUSTMENT

Notes: Unless otherwise specified, all measurement points and adjustment parts are located on MONITOR board.

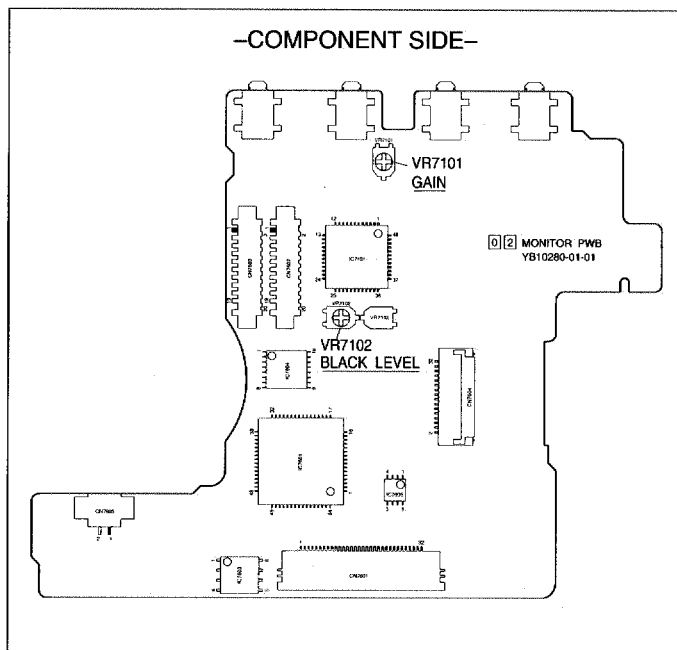


Fig. 3-4-1 MONITOR board

3.4.2 Gain

Subject	• Camera picture • Gray scale
Mode	• EE
Equipment	• Oscilloscope
Measurement point	• IC7101 pin 27 (VIDLO)
Adjustment part	• VR7101 (Gain)
Specification	• "A" = $2.7V(p-p) \pm 0.05 V(p-p)$

- 1) Observe waveform at pin 27 of the IC7101.
- 2) Adjust VR7101 so that level of "A" (see Fig. 3-4-3) of a waveform becomes $2.7 V(P-P) \pm 0.05 V(p-p)$.

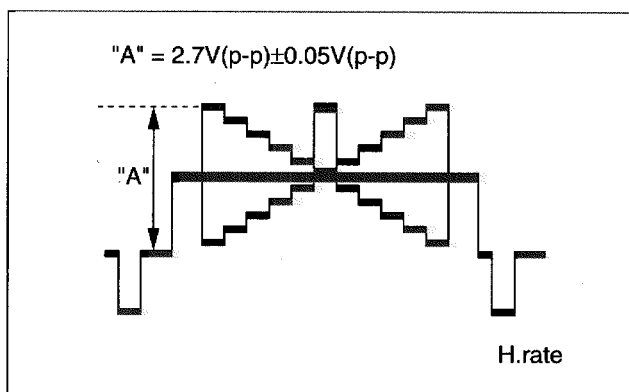


Fig. 3-4-3 Gain

3.4.1 Black level

Subject	• Camera picture • Gray scale
Mode	• EE
Equipment	• Oscilloscope
Measurement point	• IC7101 pin 27 (VIDLO)
Adjustment part	• VR7102 (Black level)
Specification	• "A" = $2.5 V \pm 0.05 V$

- 1) Observe waveform at pin 27 of the IC7101.
- 2) Adjust VR7102 so that DC level of "A" (between the pedestal level and GND, see Fig. 3-4-2) of a waveform becomes $2.5 V \pm 0.05 V$.

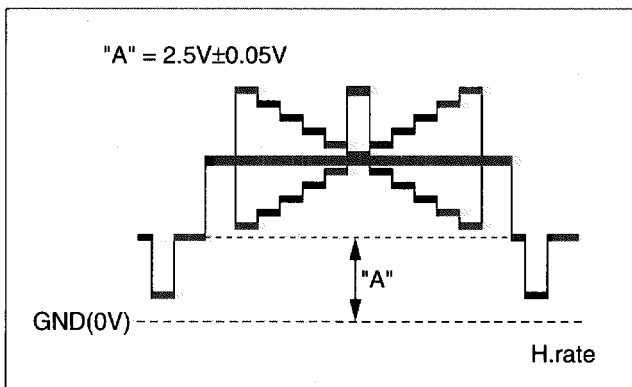


Fig. 3-4-2 Black level

SECTION 4 CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions

The Components identified by the symbol  are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

1. Units of components on the schematic diagram

Unless otherwise specified.

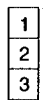
- 1) All resistance values are in ohm. 1/6 W, 1/8 W (refer to parts list).
Chip resistors are 1/16 W.
K: K Ω (1000 Ω), M: M Ω (1000K Ω)
- 2) All capacitance values are in μ F, (P: PF).
- 3) All inductance values are in μ H, (m: mH).
- 4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

2. Indications of control voltage

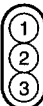
AUX : Active at high.

$\overline{\text{AUX}}$ or AUX(L) : Active at low.

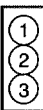
3. Interpreting Connector indications



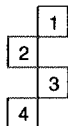
Removable connector



Wire soldered directly on board



Non-removable Board connector



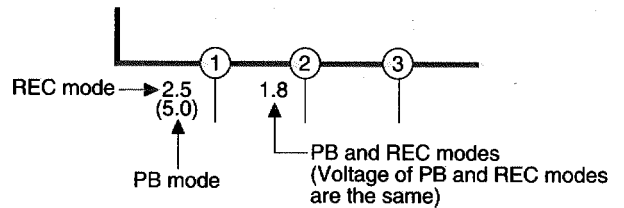
Board to Board



Connected pattern on board
The arrows indicate signal path

4. Voltage measurement

- 1) Regulator (DC/DC CONV) circuits
REC : Colour bar signal.
PB : Alignment tape (Colour bar).
— : Unmeasurable or unnecessary to measure.
- 4) Indication on schematic diagram
Voltage Indications for REC and PB mode on the schematic diagram are as shown below.



Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

5. Signal path Symbols

The arrows indicate the signal path as follows.

NOTE : The arrow is DVC unique object.



Playback signal path



Playback and recording signal path



Recording signal path
(including E-E signal path)



Capstan servo path



Drum servo path

(Example)



R-Y Playback R-Y signal path



Y Recording Y signal path

6. Indication of the parts for adjustments

The parts for the adjustments are surrounded with the circle as shown below.



7. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.



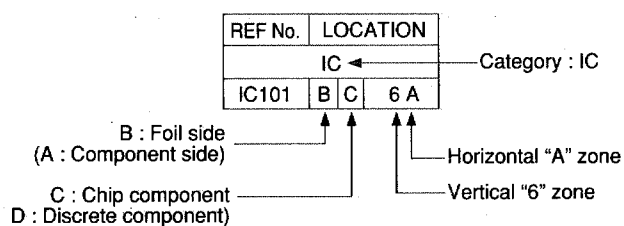
CIRCUIT BOARD NOTES

1. Foil and Component sides

- 1) Foil side (B side) :
Parts on the foil side seen from foil face (pattern face) are indicated.
- 2) Component side (A side) :
Parts on the component side seen from component face (parts face) indicated.

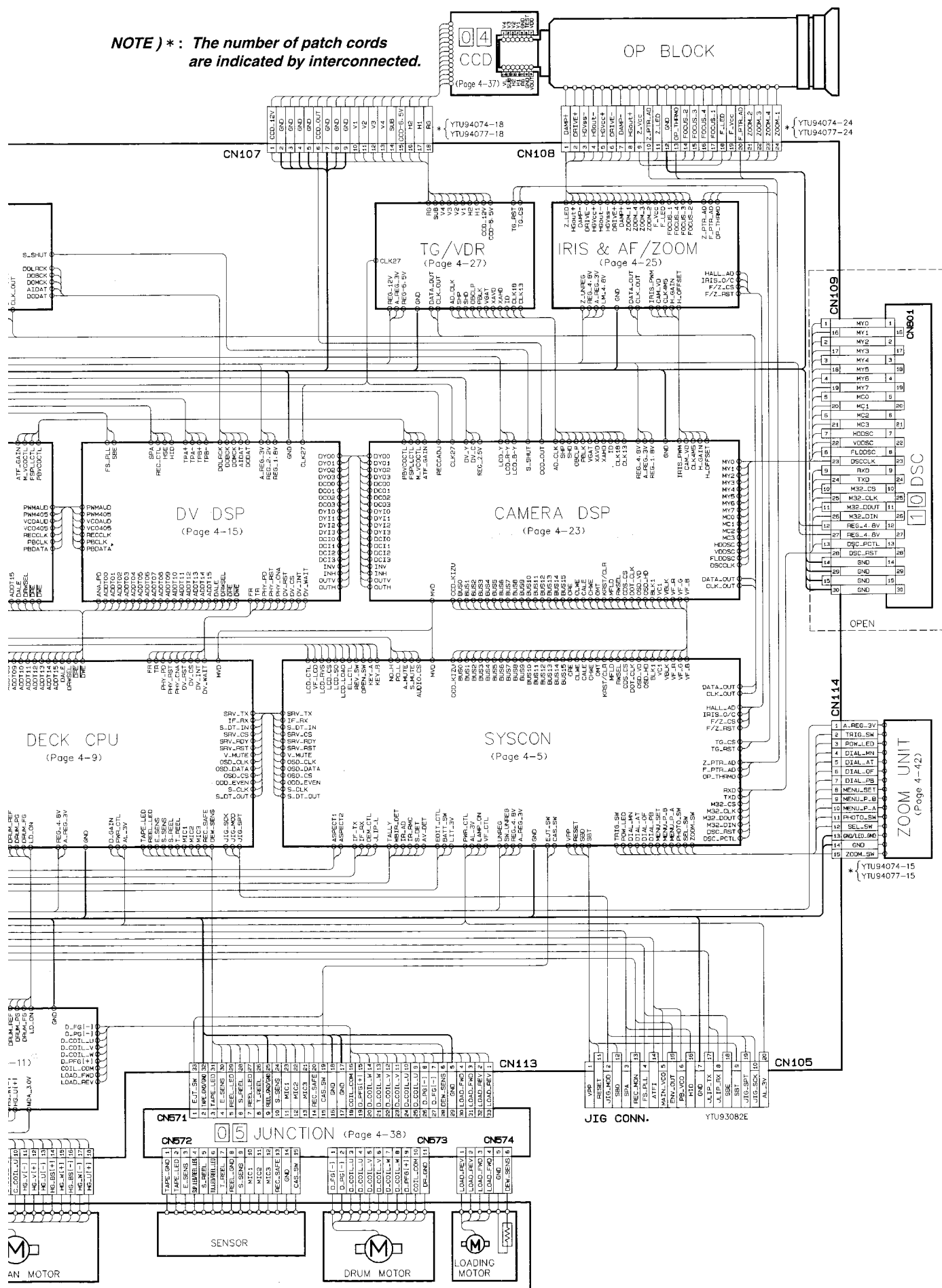
2. Parts location guides

Parts location are indicated by guide scale on the circuit board.



Note: For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

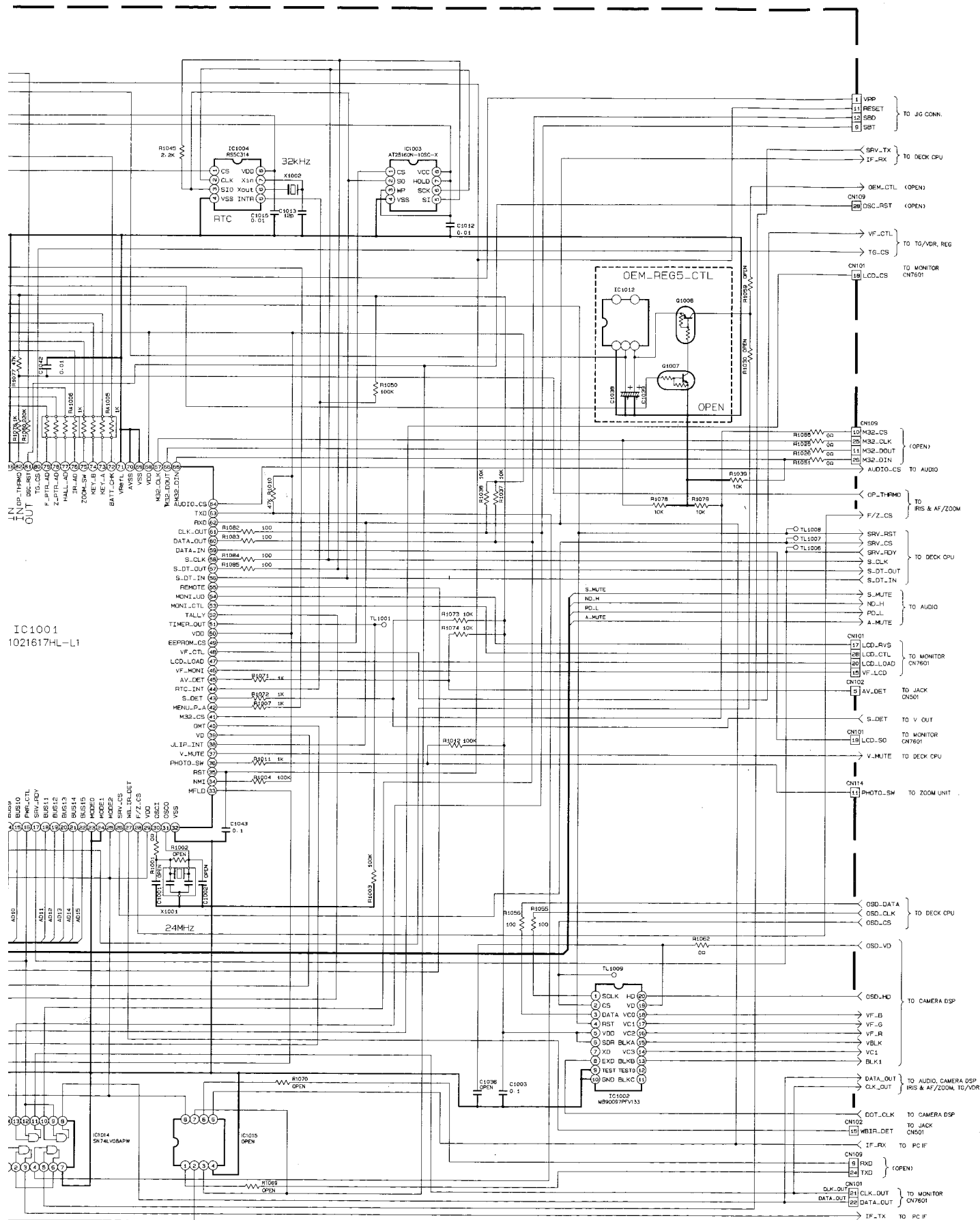
NOTE) *: The number of patch cords are indicated by interconnected.



NC

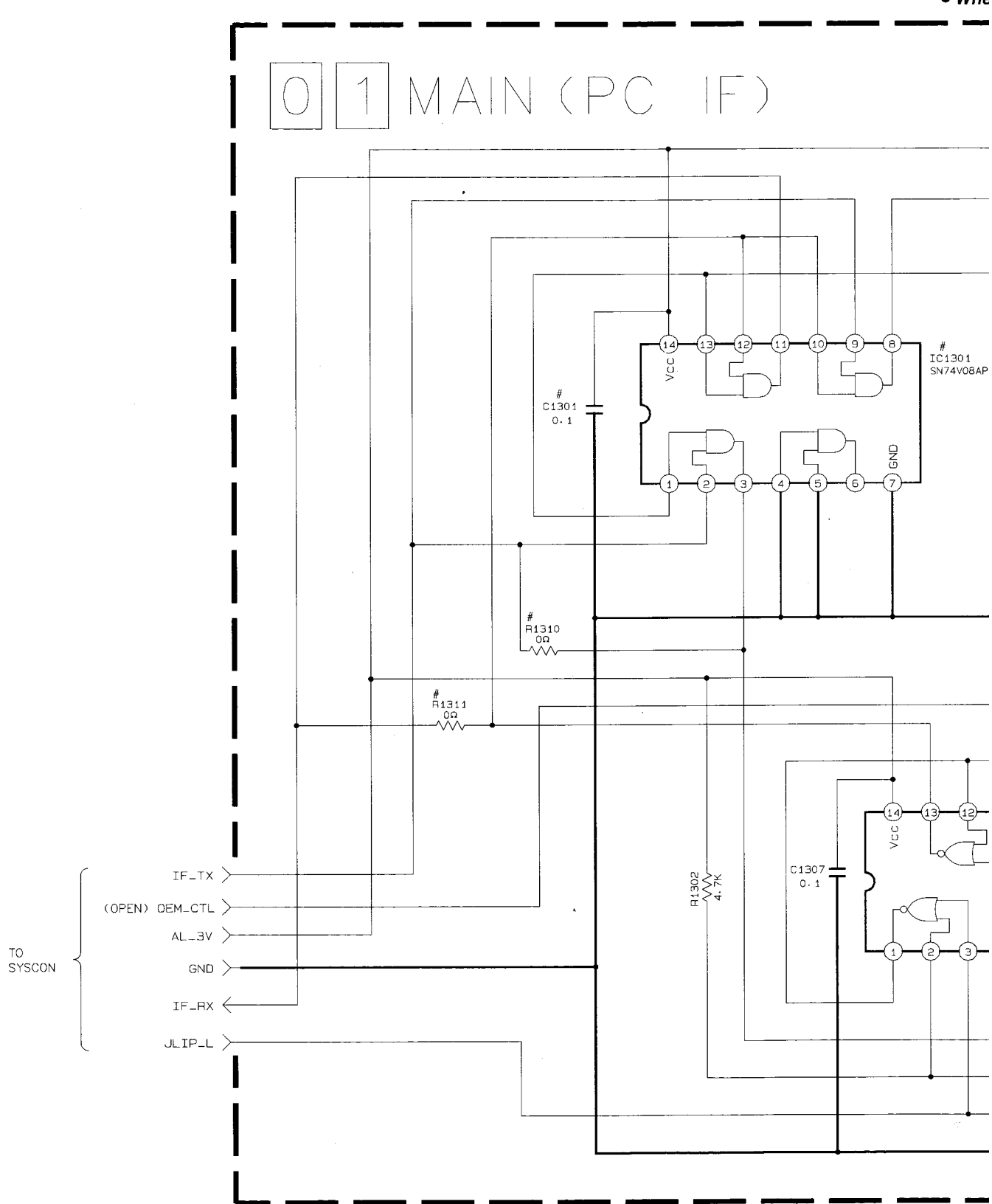


- **When ordering parts, be sure to order according to the Part Number indicated in the Parts List.**



4.3 PC IF SCHEMATIC DIAGRAM

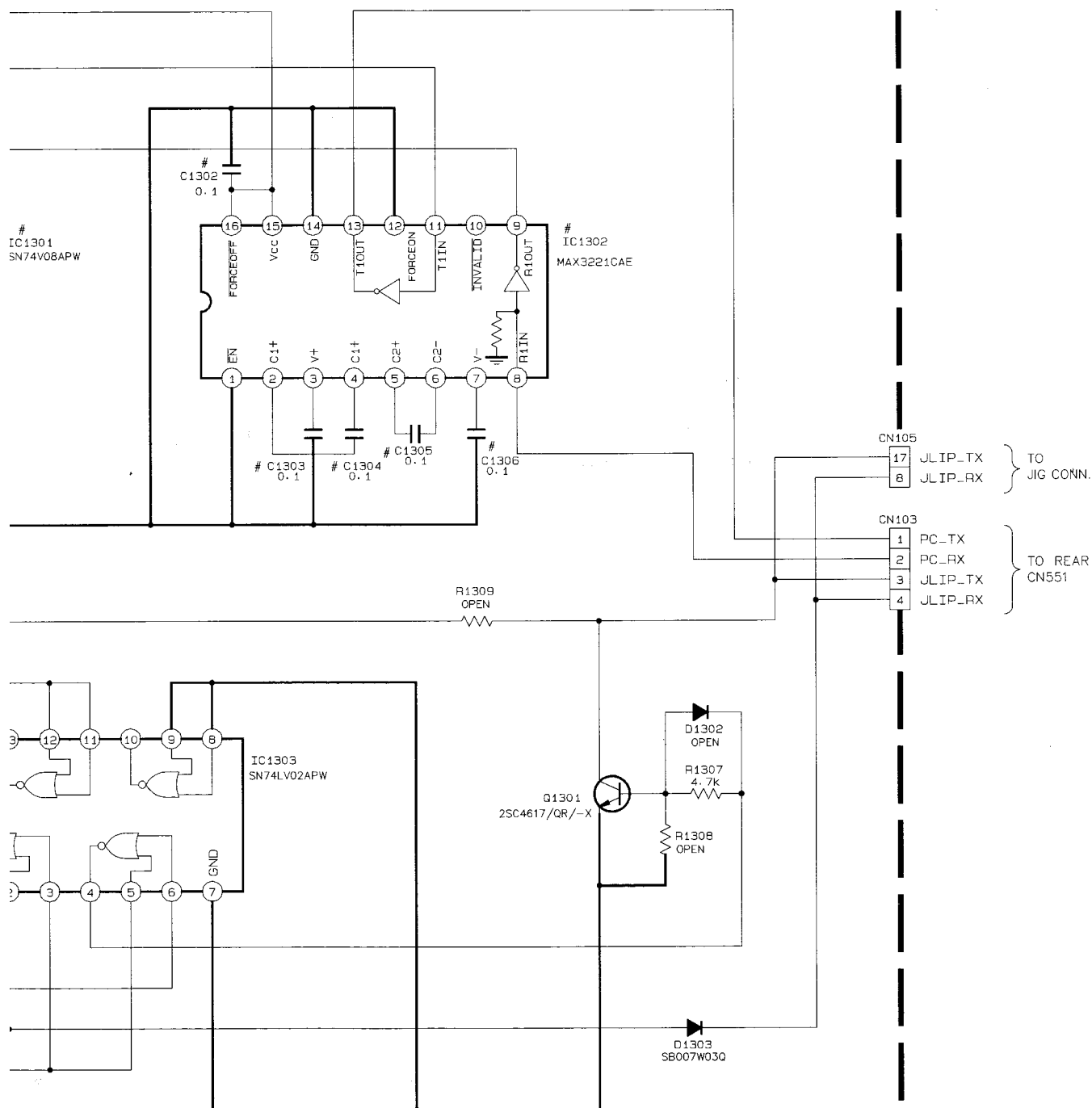
NOTES: ● For
this
● Whe



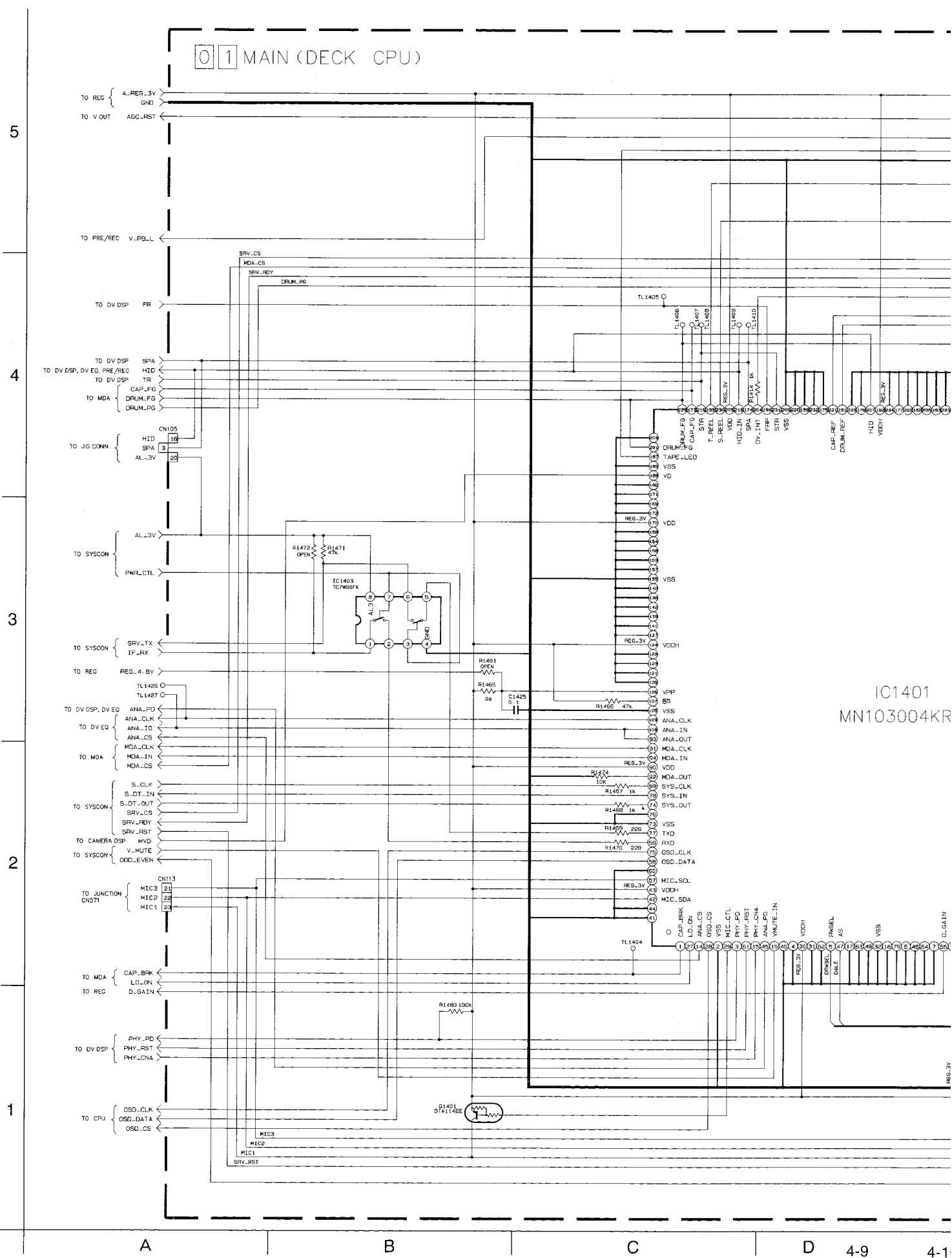
NOTE : COMPARISON CHART OF MODELS (#) .

REF. NO MODELS	IC1301 IC1302	R1310 R1311	C1301 C1306
GR-DVL100	OPEN	USED	OPEN
GR-DVL300	USED	OPEN	USED
GR-DVL305	OPEN	USED	OPEN
GR-DVL307	OPEN	USED	OPEN
GR-DVL500	USED	OPEN	USED
GR-DVL507	USED	OPEN	USED

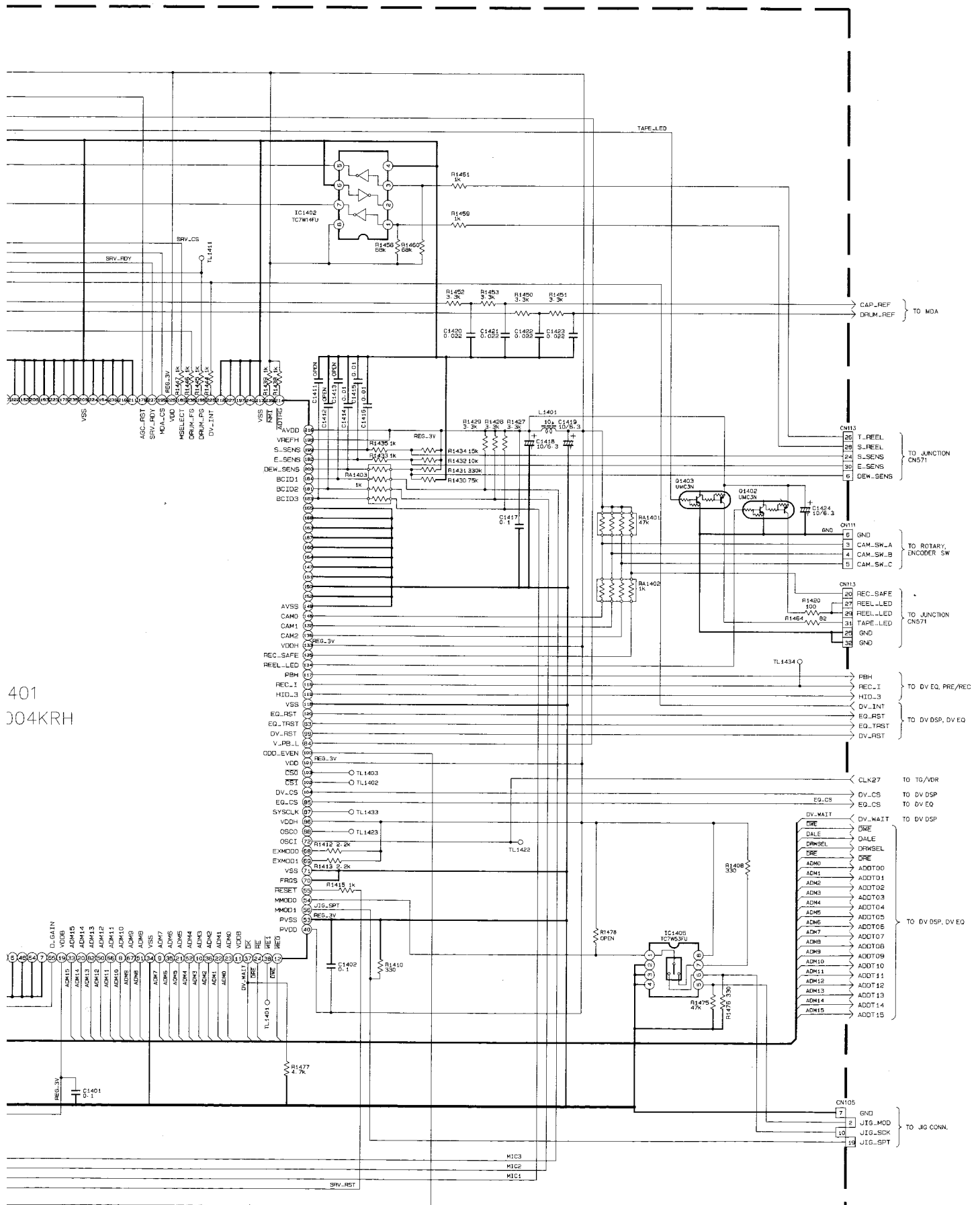
-
- The schematic diagram illustrates a digital circuit with the following components and connections:
- IC1301 (SN74V08APW):** A 3-input NAND gate. Its inputs are connected to pins 1, 2, and 3. Its output is connected to pin 14.
 - IC1302 (MAX3221CAE):** A RS-485 transceiver. Its pins are connected as follows:
 - Pin 1 (EN) to pin 15 (FORCEOFF).
 - Pin 2 (C1+) to pin 15 (VCC).
 - Pin 3 (V+) to pin 14 (GND).
 - Pin 4 (C1+) to pin 13 (T1OUT).
 - Pin 5 (C2+) to pin 12 (FORCEON).
 - Pin 6 (C2-) to pin 11 (T1IN).
 - Pin 7 (V-) to pin 10 (INVALID).
 - Pin 8 (R1IN) to pin 9 (R1OUT).
 - IC1303 (SN74LV02APW):** A NAND gate. Its inputs are connected to pins 1, 2, and 3. Its output is connected to pin 14.
 - Capacitors:**
 - C1302 (0.1) is connected between pins 15 (VCC) and 14 (GND).
 - C1303 (0.1) is connected between pins 2 (C1+) and 3 (V+).
 - C1304 (0.1) is connected between pins 4 (C1+) and 5 (C2+).
 - C1305 (0.1) is connected between pins 5 (C2+) and 6 (C2-).
 - C1306 (0.1) is connected between pins 7 (V-) and 8 (R1IN).
 - Resistors:**
 - R1307 (4.7k) is connected between pins 9 (R1OUT) and 8 (R1IN).
 - R1308 (OPEN) is connected between pins 9 (R1OUT) and 10 (INVALID).
 - R1309 (OPEN) is connected between pins 10 (INVALID) and 11 (T1IN).
 - Transistor and Diodes:**
 - Q1301 (2SC4617/QR/-X) is a PNP transistor. Its emitter is connected to pin 10 (INVALID), its base is connected to pin 11 (T1IN), and its collector is connected to pin 12 (FORCEON).
 - D1302 (OPEN) is a diode connected between pins 9 (R1OUT) and 10 (INVALID).
 - D1303 (SB007W030) is a diode connected between pins 10 (INVALID) and 11 (T1IN).
 - Power and Ground:**
 - VCC is connected to pin 15.
 - GND is connected to pins 14, 13, and 12.
 - Connector (CN1):** The circuit is connected to a connector with pins 1, 2, 3, and 4.



N



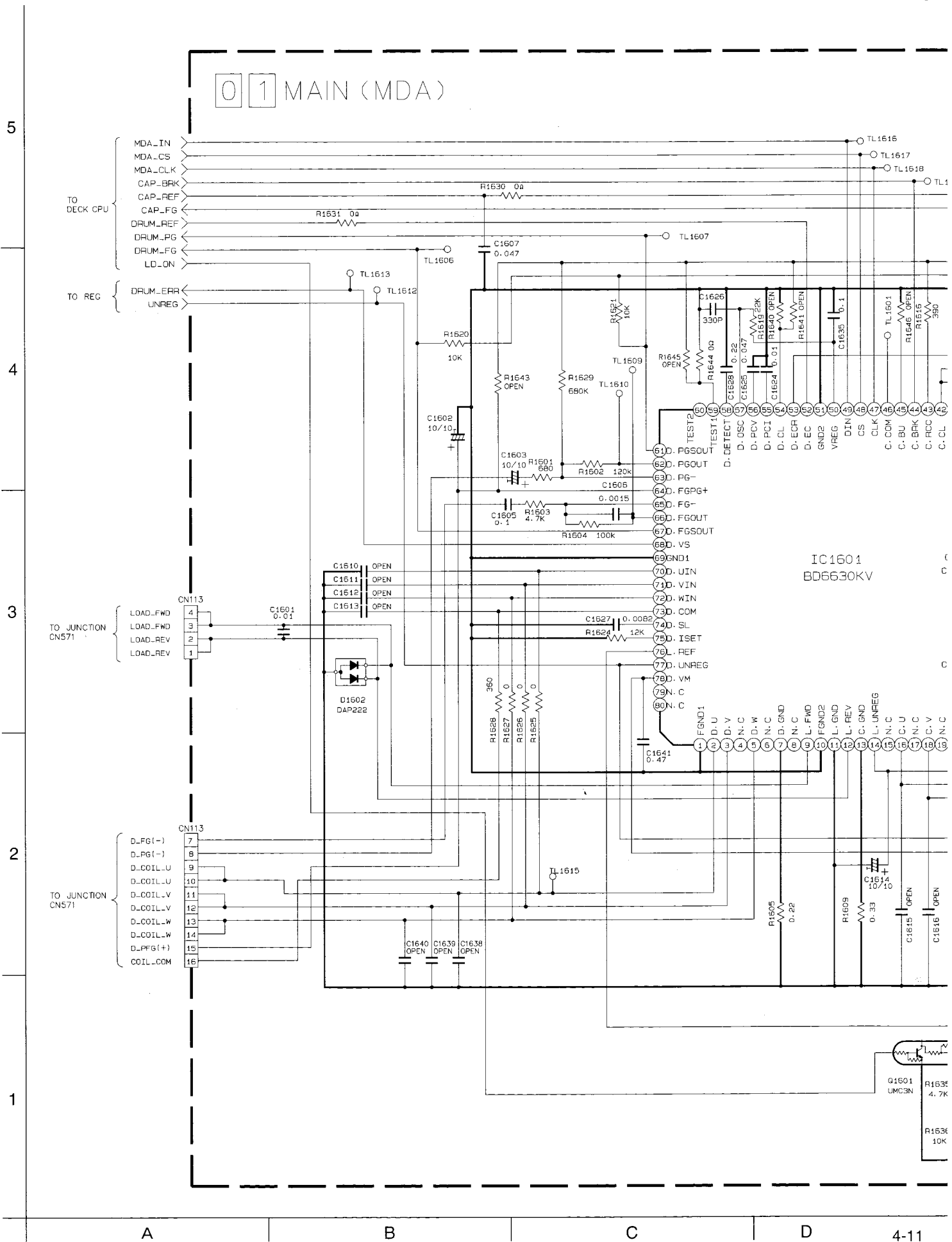
- When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



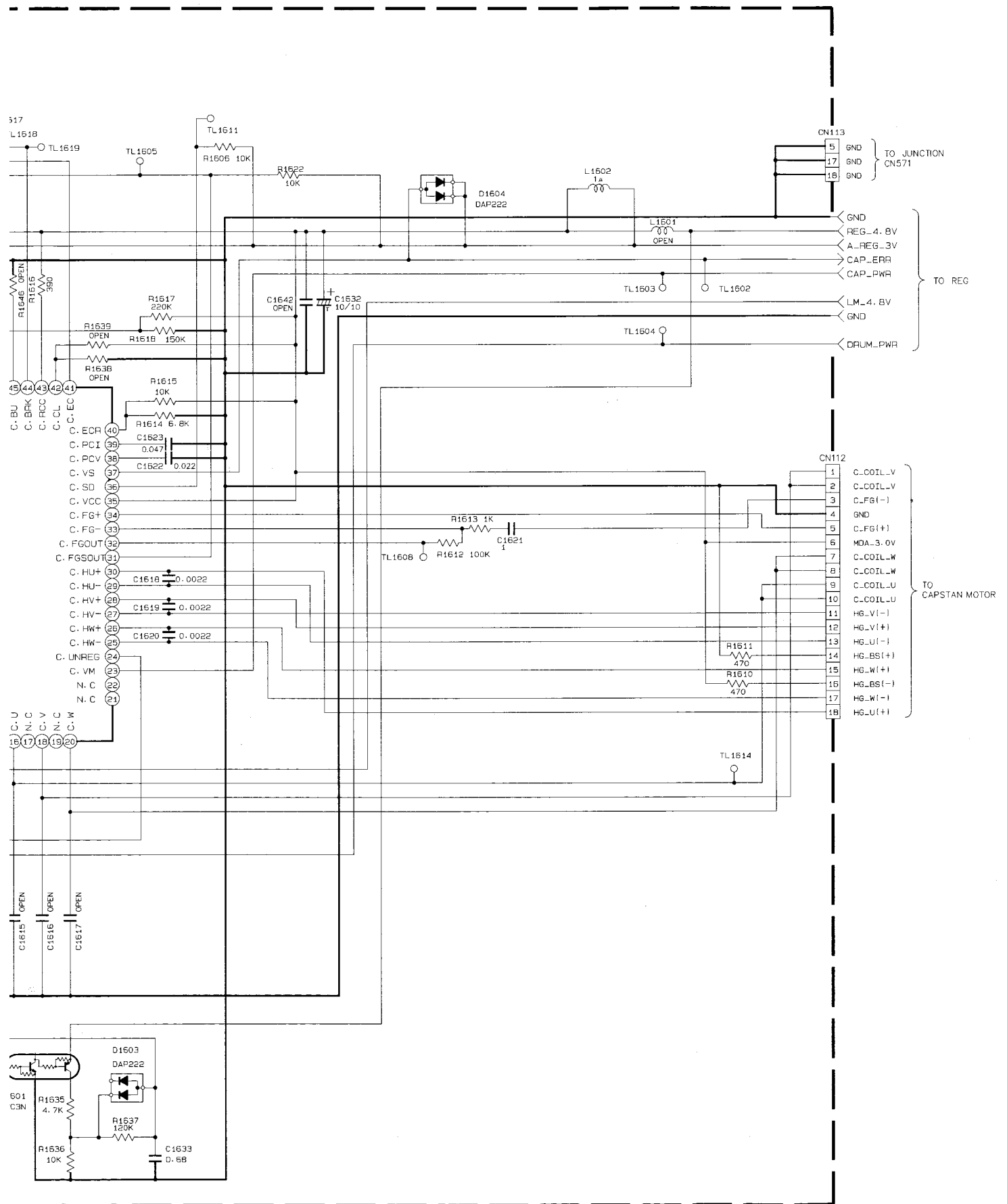
H

4.5 MDA SCHEMATIC DIAGRAM

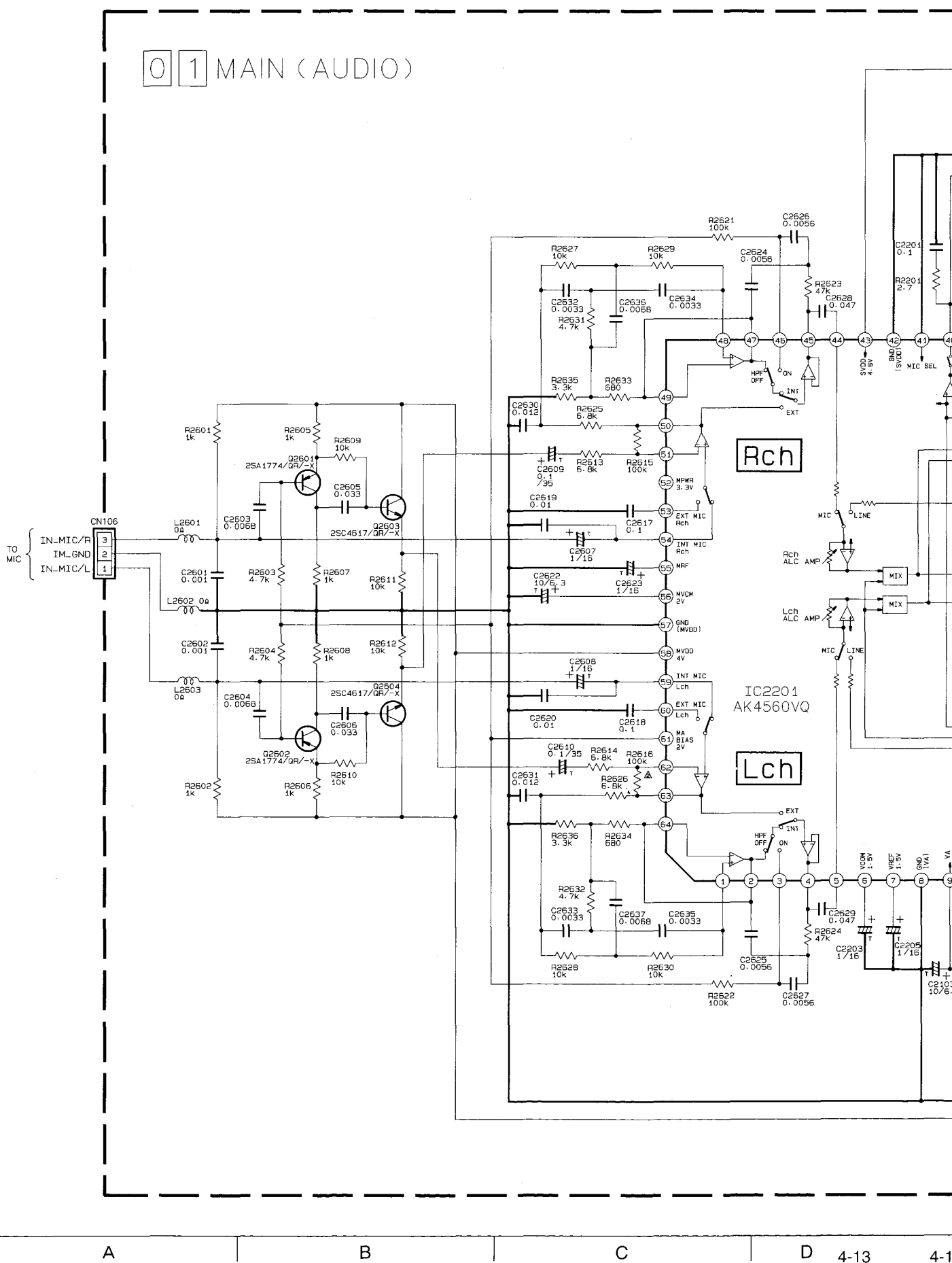
NOTE



● ***When ordering parts, be sure to order according to the Part Number indicated in the Parts List.***



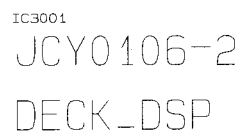
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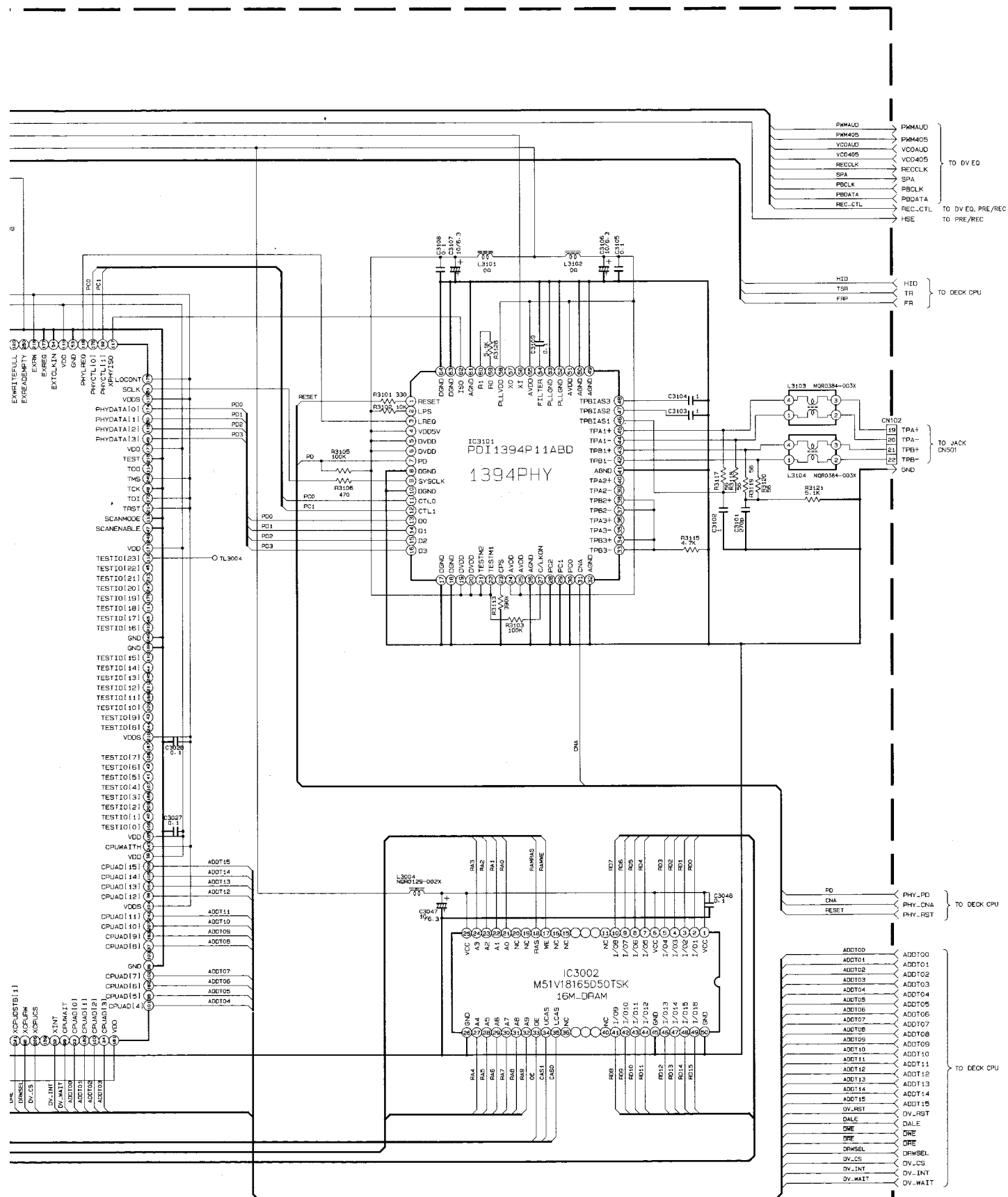
- **When ordering parts, be sure to order according to the Part Number indicated in the Parts List.**



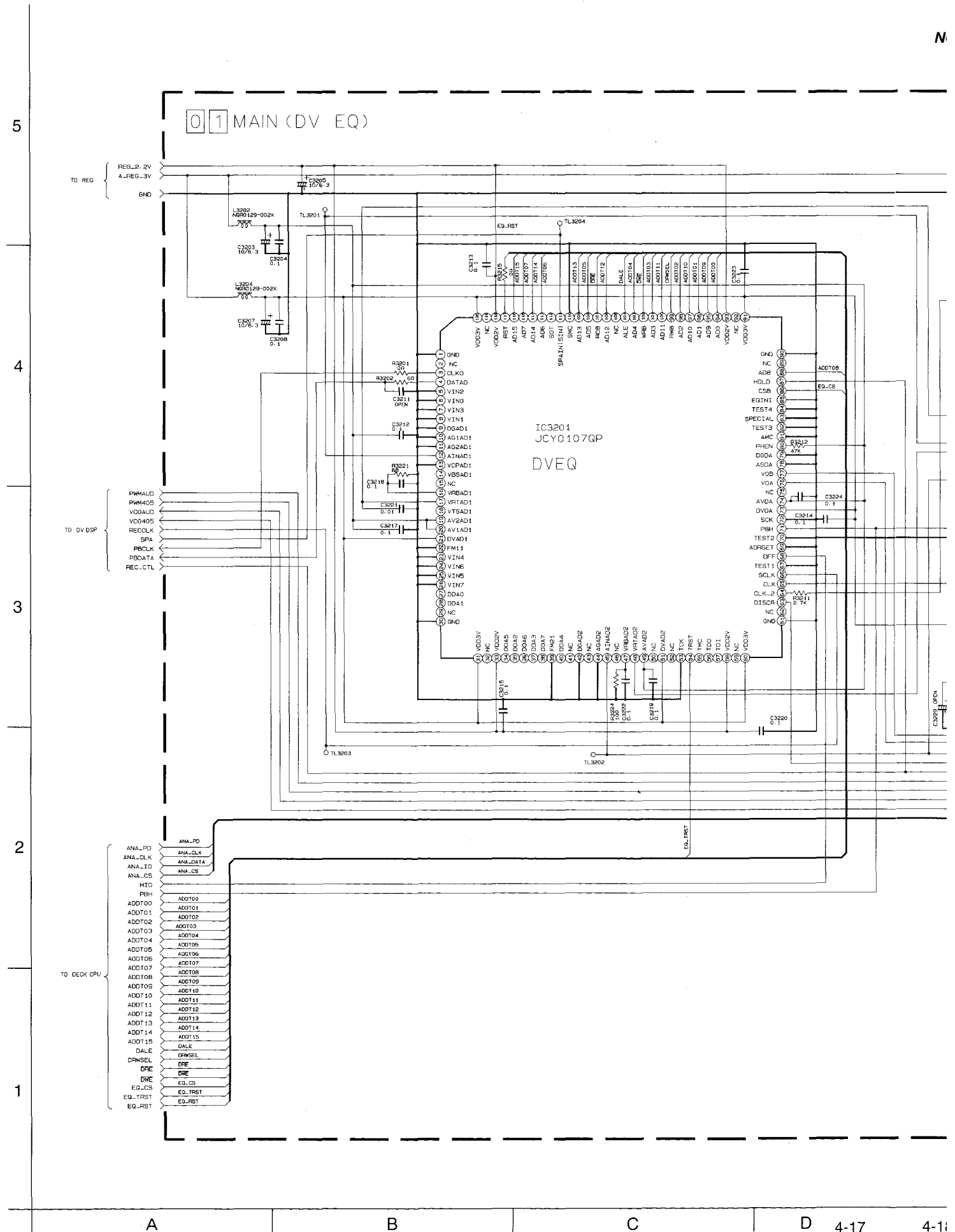
1



- **When ordering parts, be sure to order according to the Part Number indicated in the Parts List.**

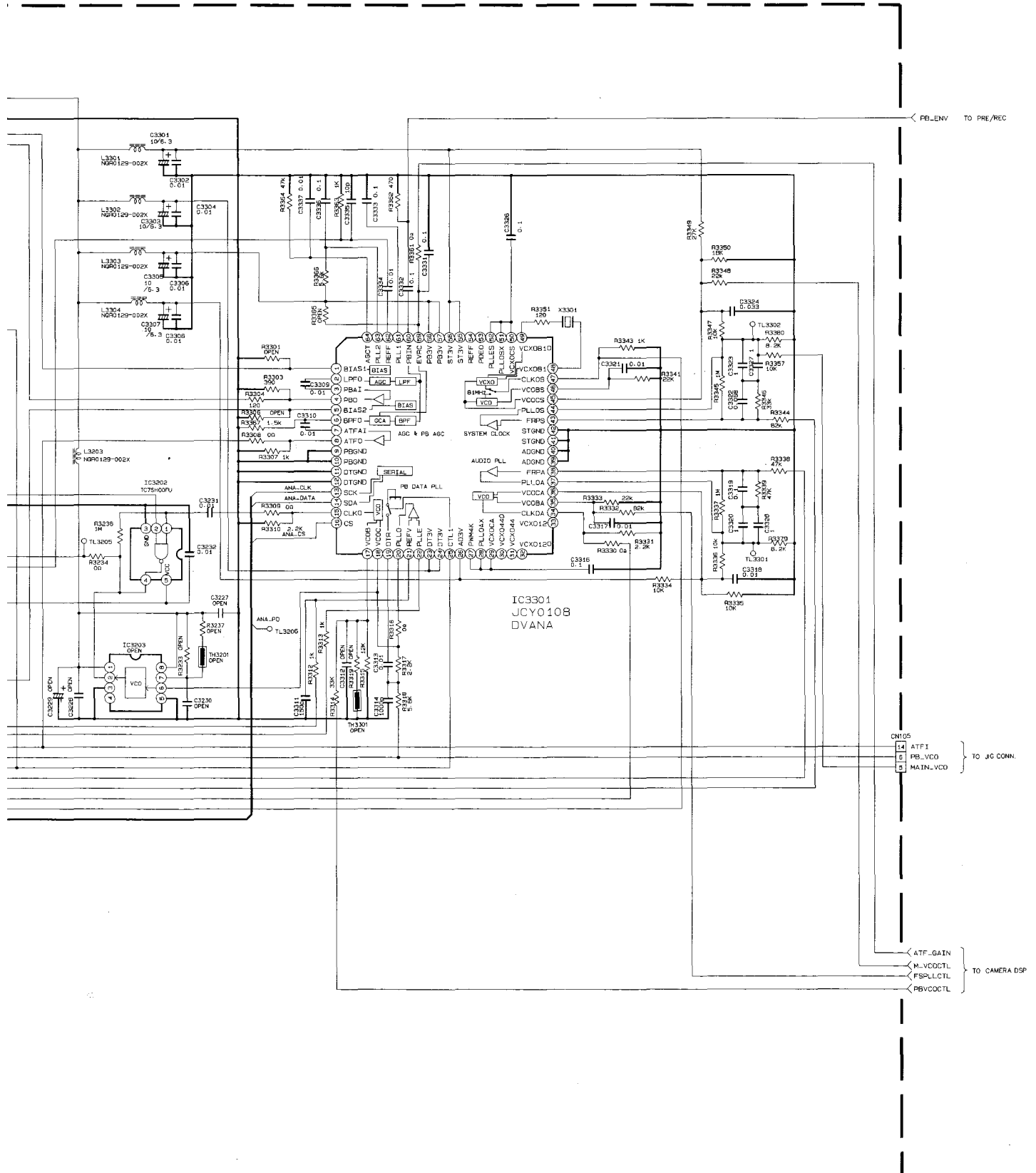


4.8 DV EQ SCHEMATIC DIAGRAM



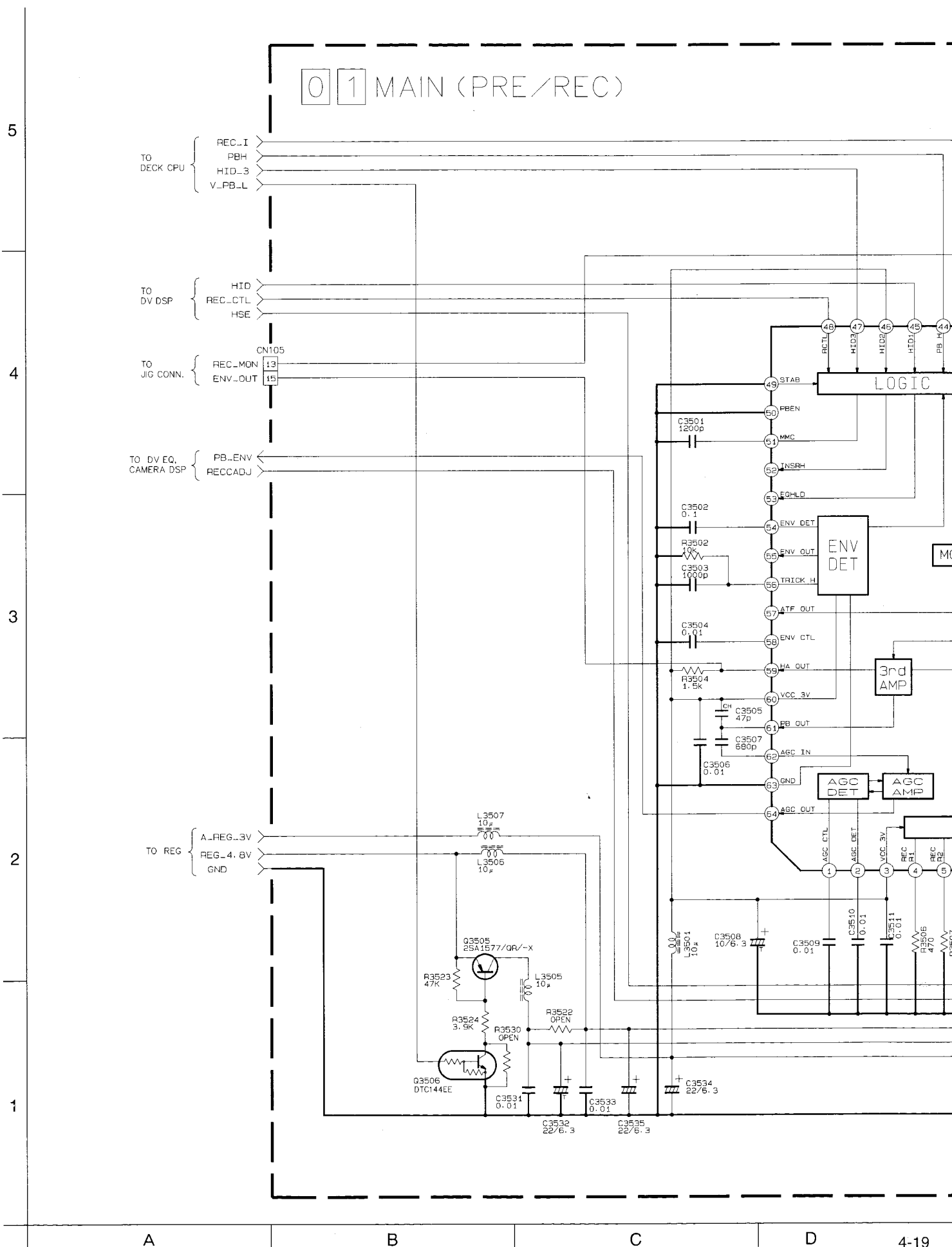
NOTES:

- For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".
- When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

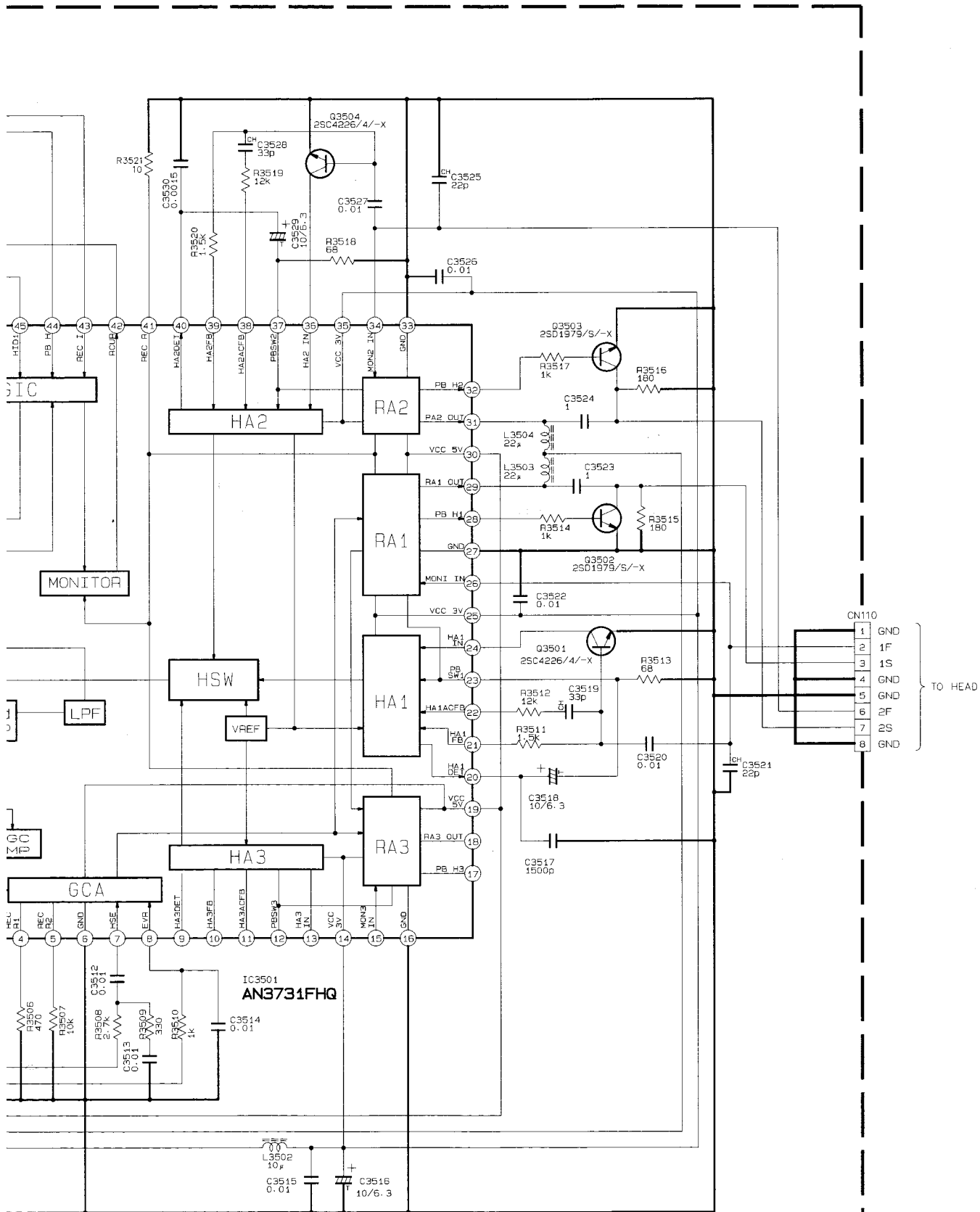


4.9 PRE/REC SCHEMATIC DIAGRAM

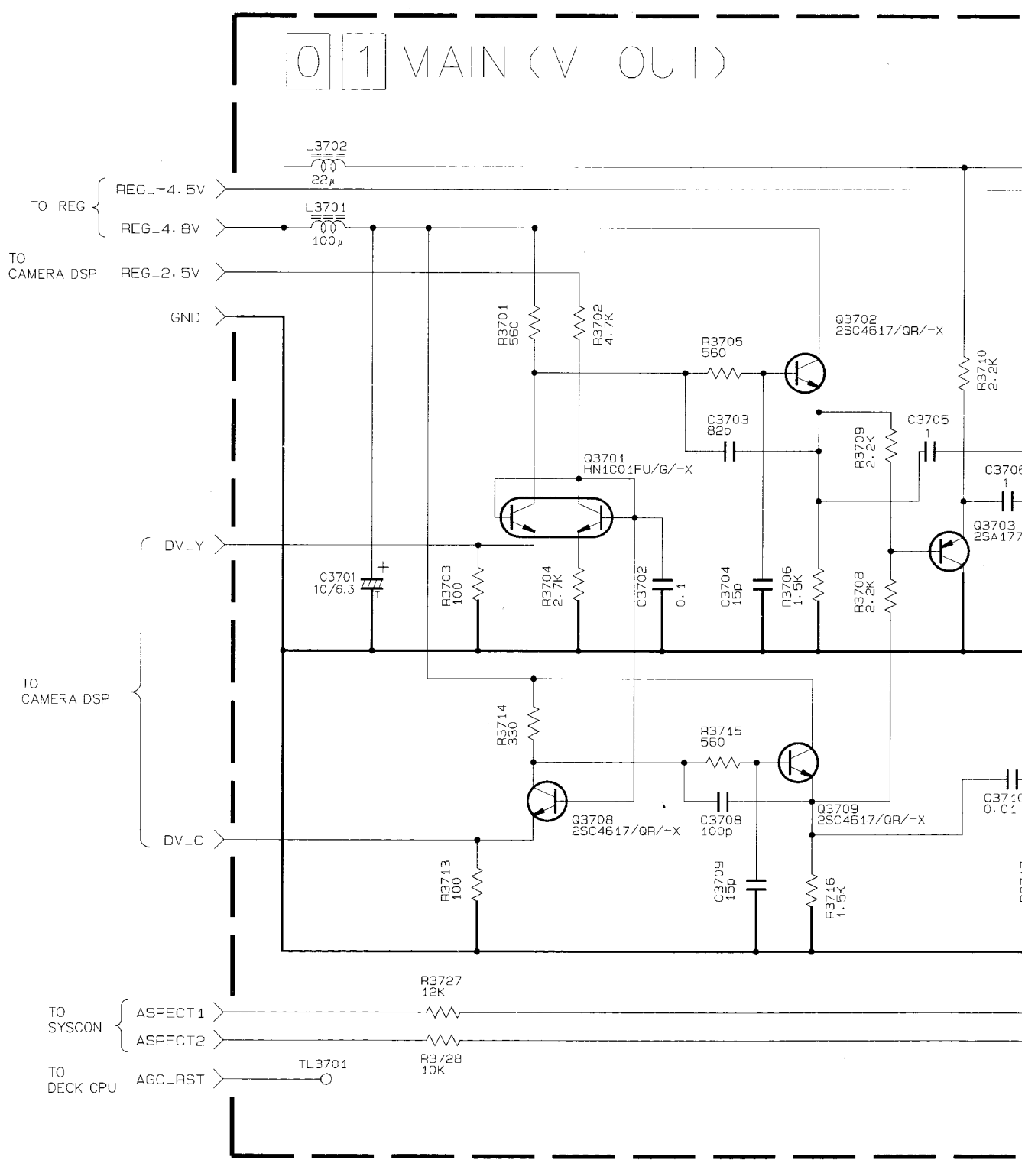
NOTES:



- NOTES: ● For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".
- When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



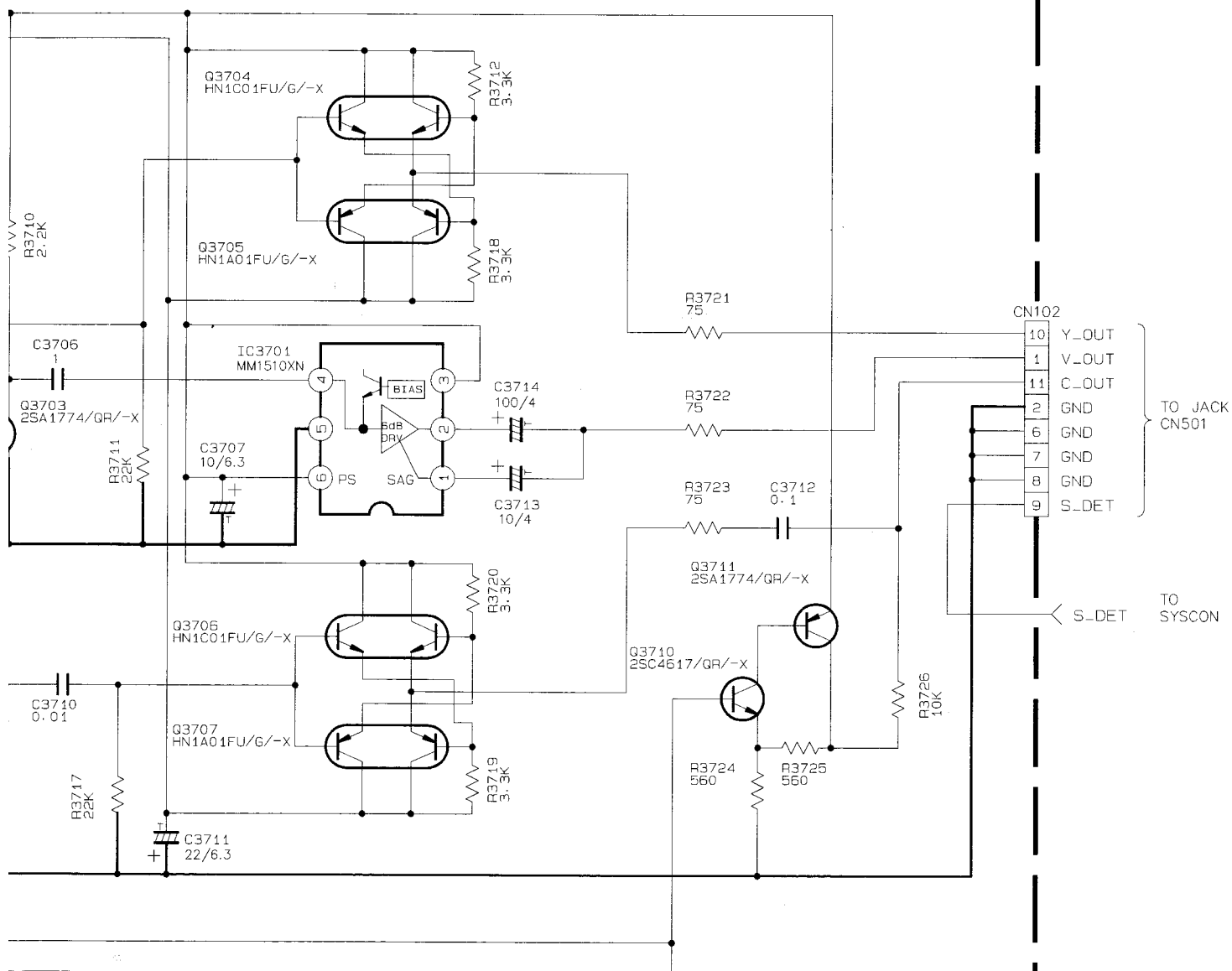
4.10 V OUT SCHEMATIC DIAGRAM



NOI

NOTES: • For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".

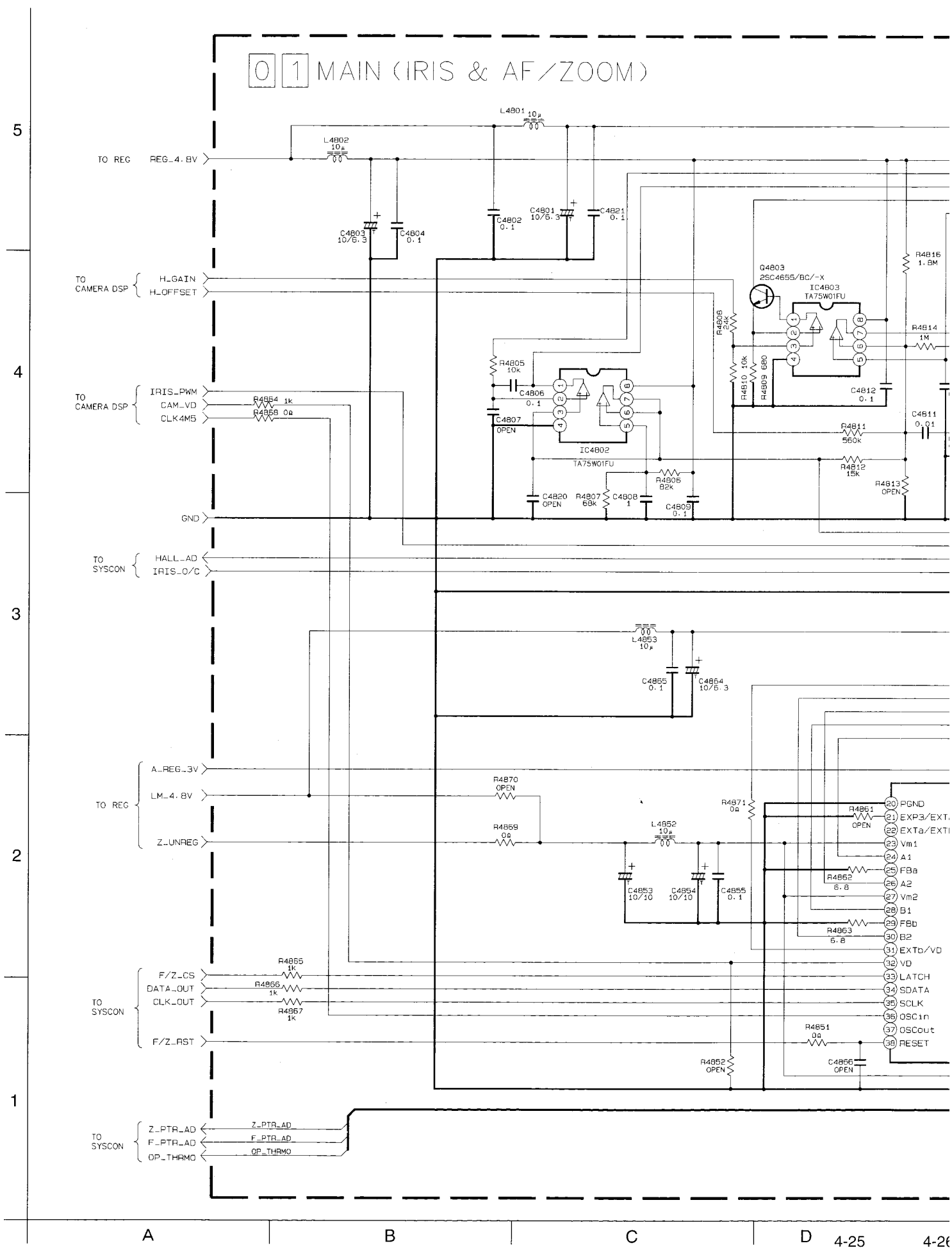
• When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



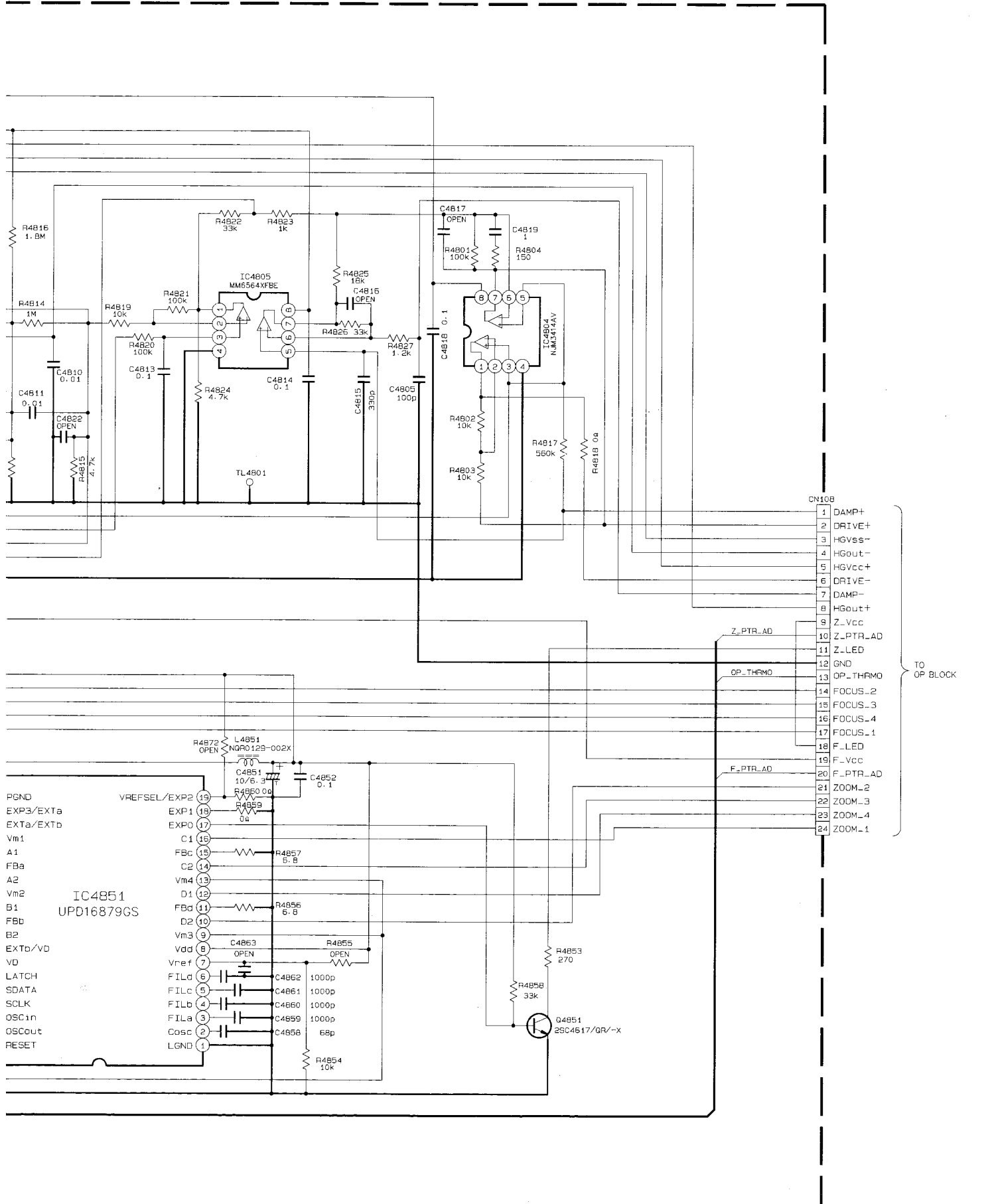
1



NOT

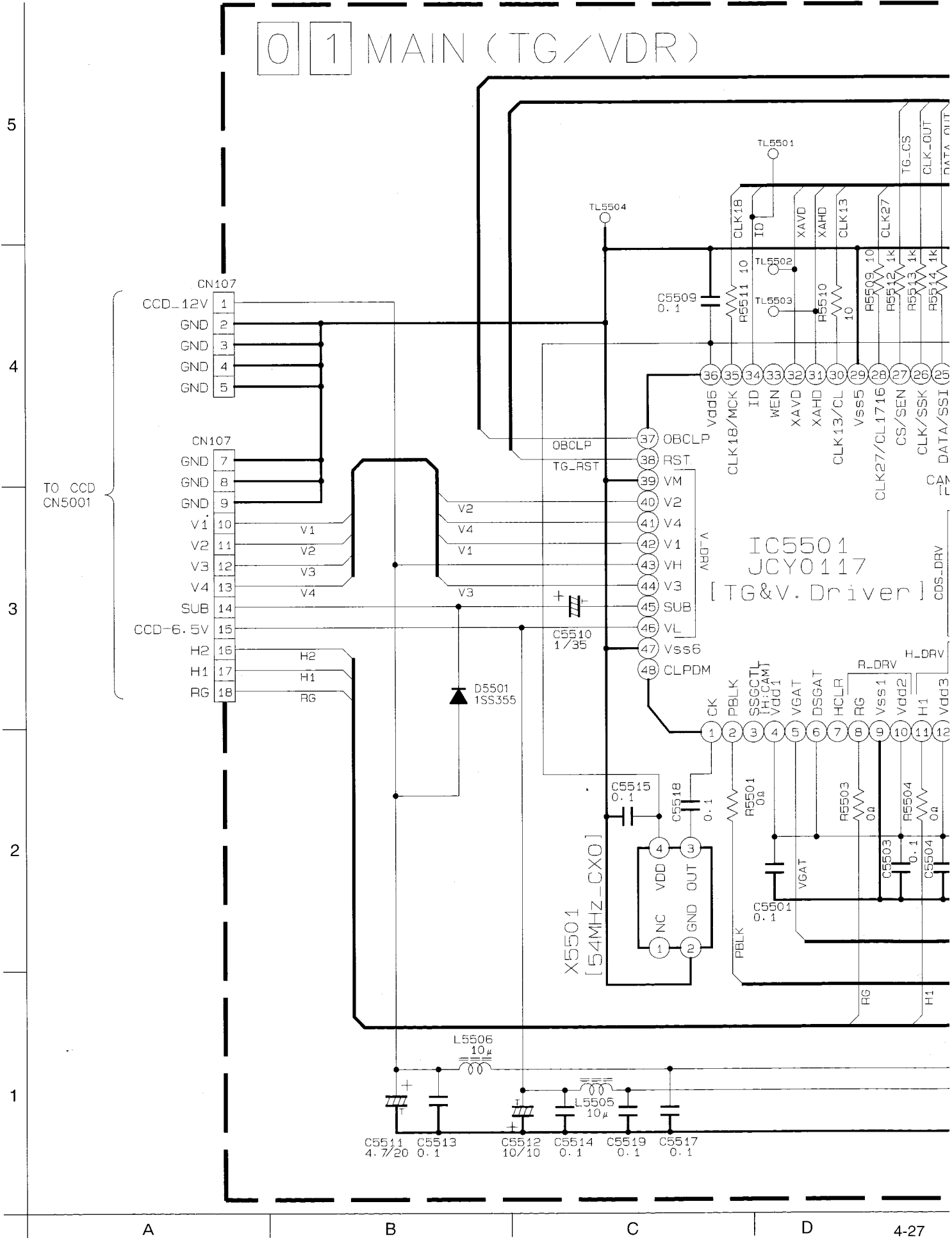


- NOTES:**
- For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".
 - When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

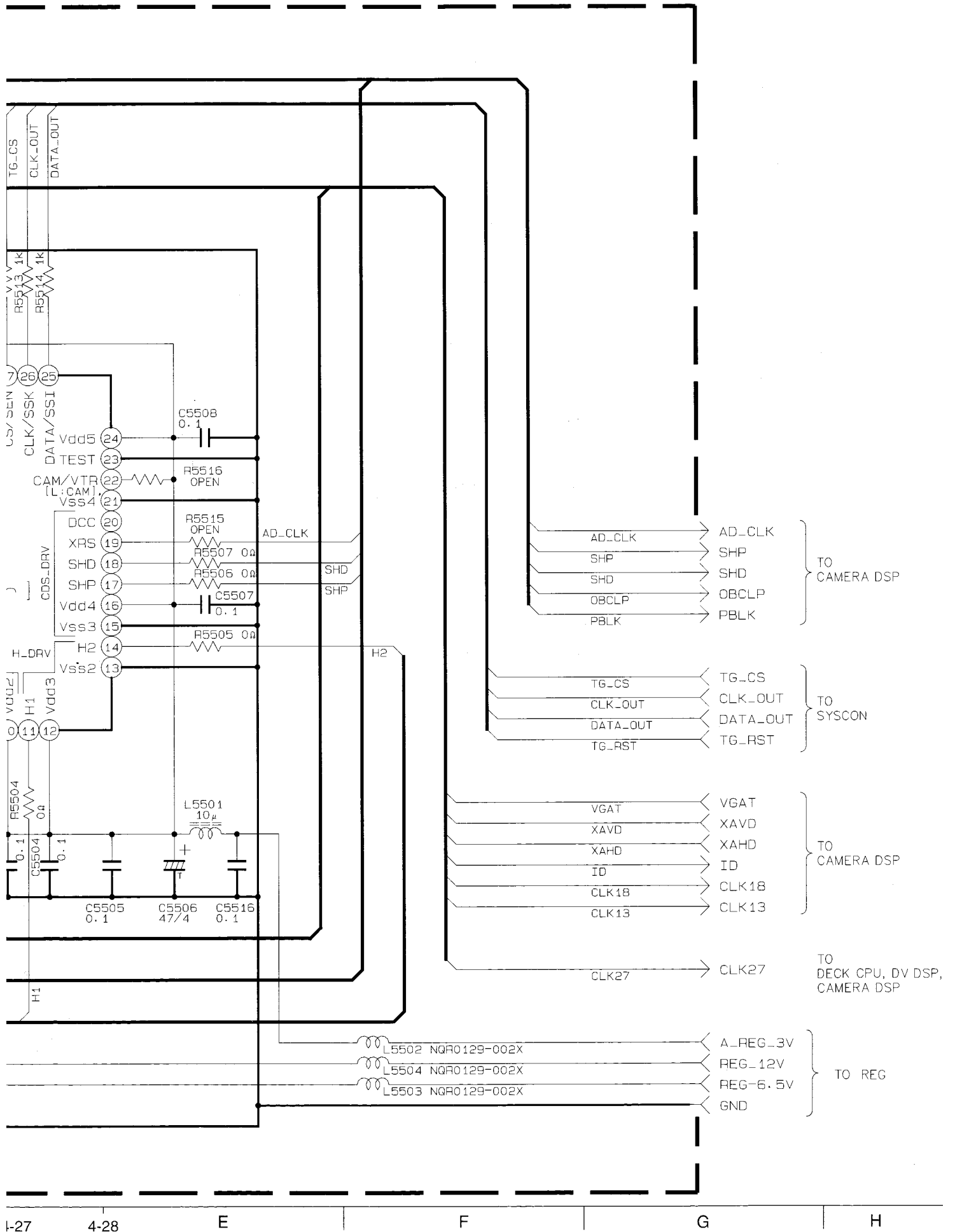


4.13 TG/VDR SCHEMATIC DIAGRAM

NOTES: ● For this d
● When



- For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".
- When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



1

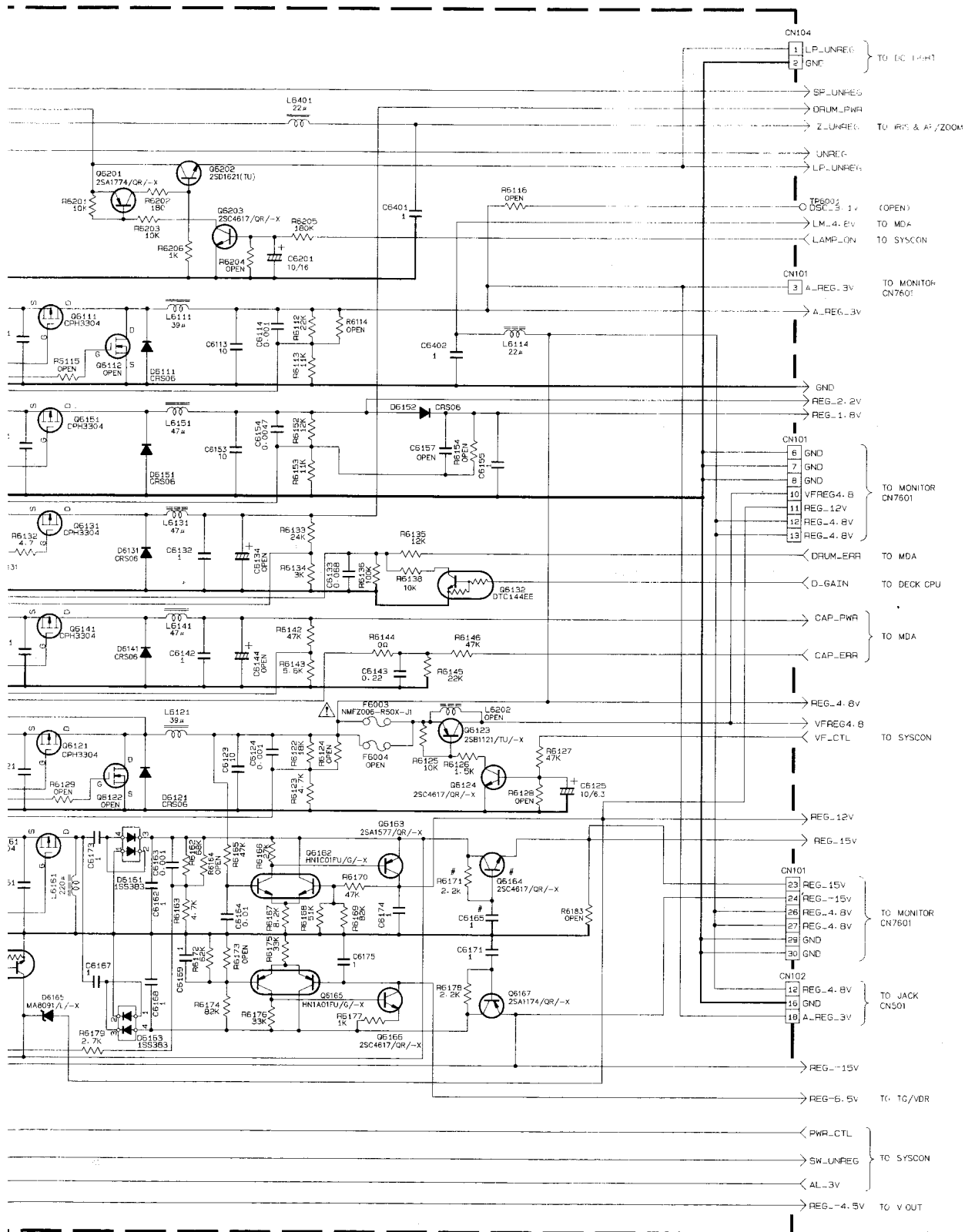
D 4-29 4-30



A B C D 4-29 4-30

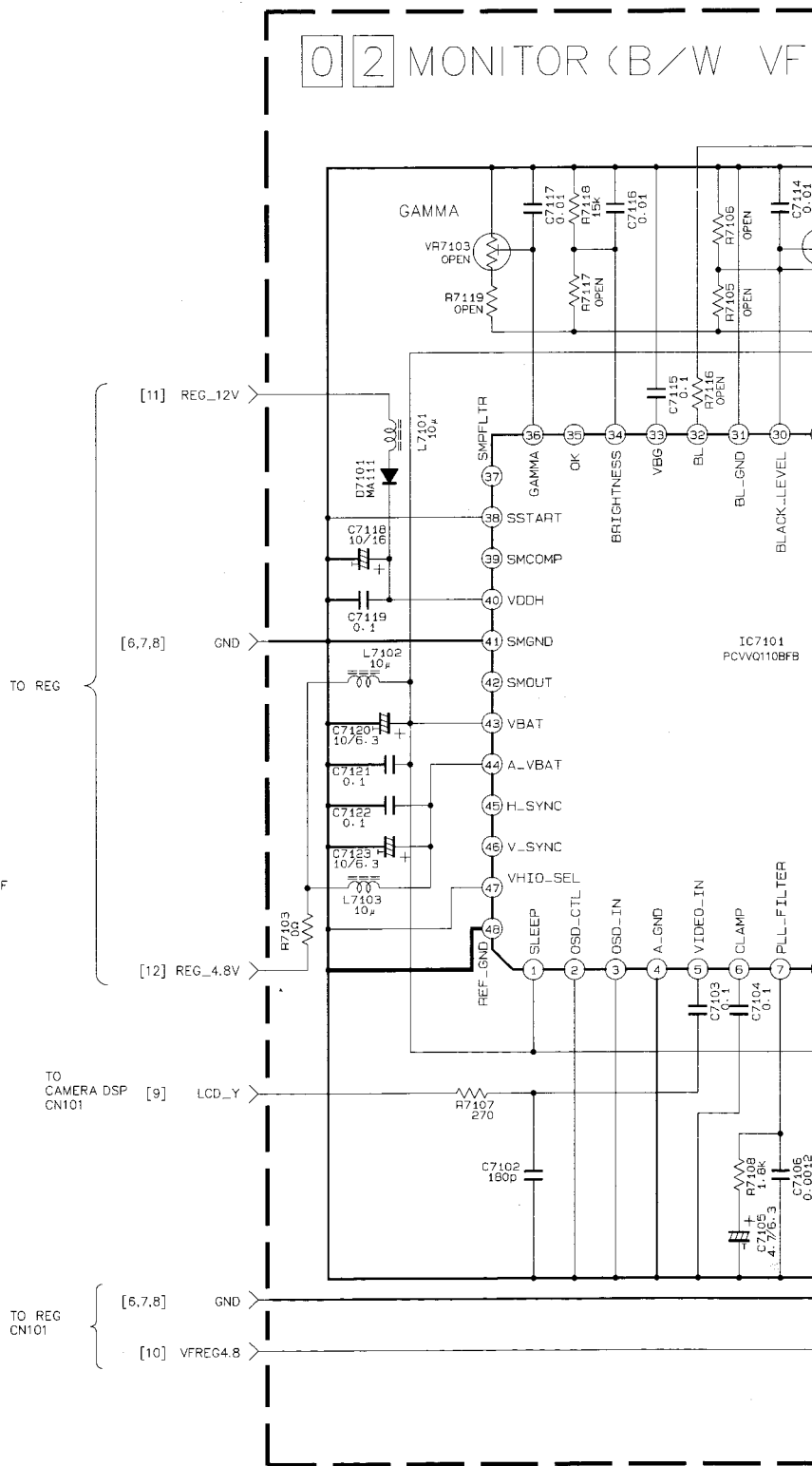
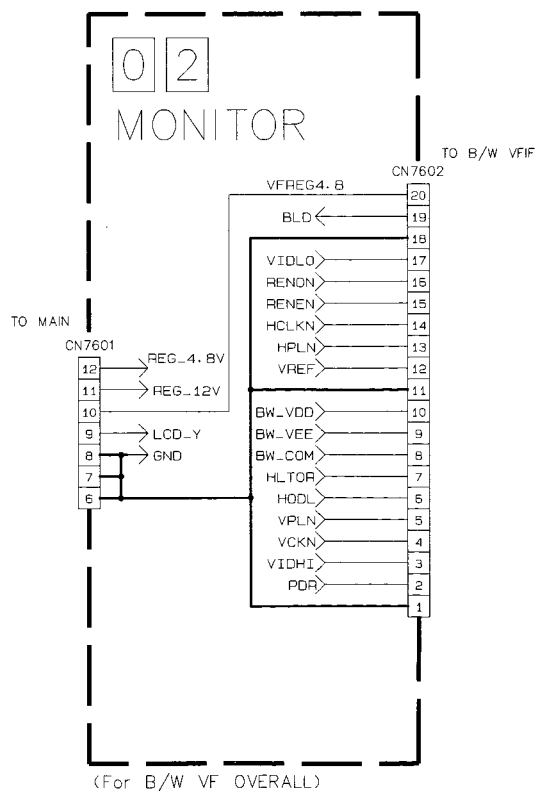
the destination of each signal and further line connections that are cut off from diagram, refer to "4.1 BOARD INTERCONNECTIONS".

in ordering parts, be sure to order according to the Part Number indicated in the Parts List.



4.15 B/W VF SCHEMATIC DIAGRAM

NOTES:

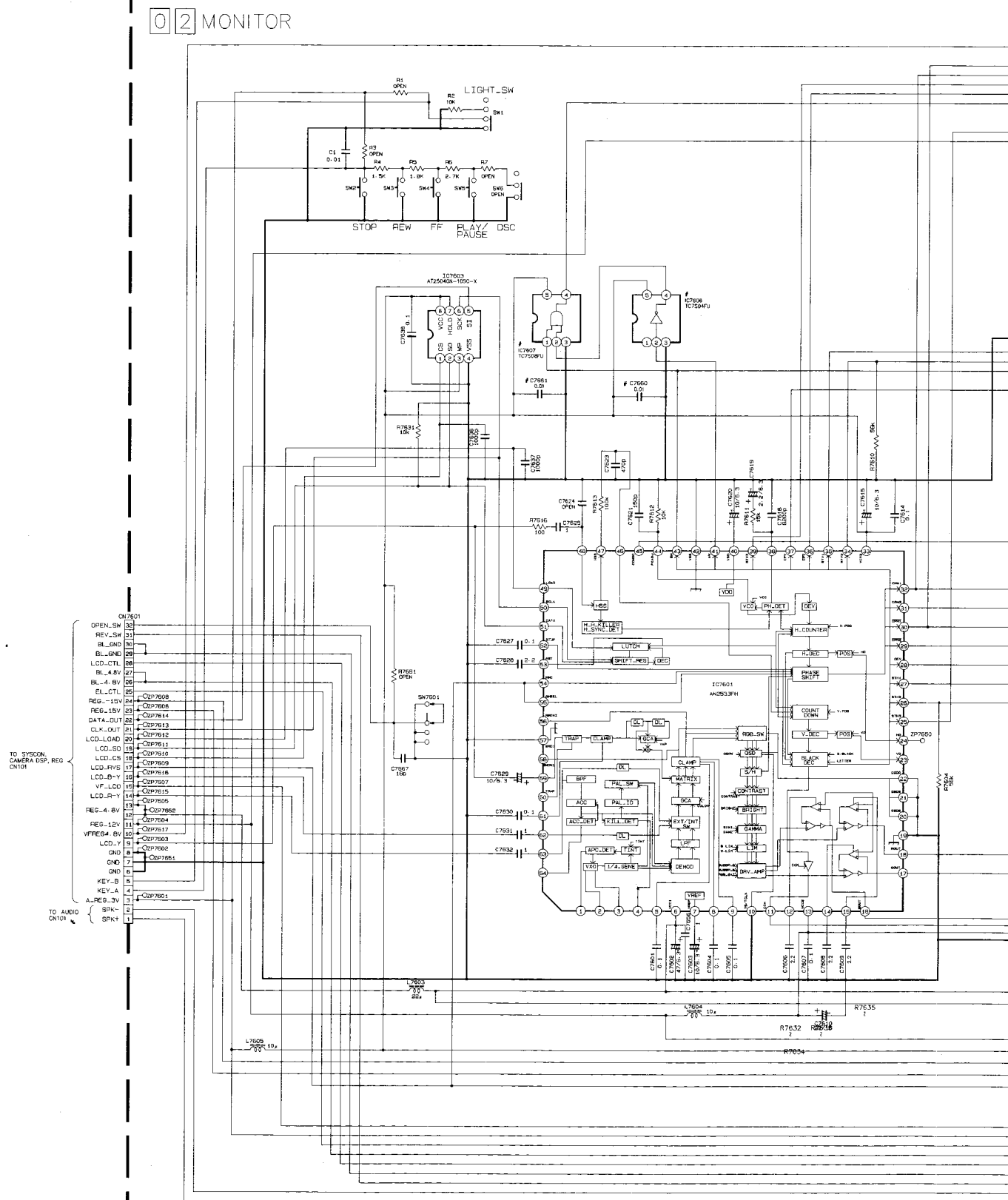


- **When ordering parts, be sure to order according to the Part Number indicated in the Parts List.**



4.16 MONITOR SCHEMATIC DIAGRAM

NC



NOTE : COMPARISON CHART OF MODELS & MARKS (#)

MODELS	REF. NO.										G7605		G7606		G7607		G7608		G7609		G7610		G7611		G7612		G7613		G7614		G7615		G7616		G7617		G7618		G7619		G7620		G7621		G7622		G7623		G7624		G7625		G7626		G7627		G7628		G7629		G7630		G7631		G7632		G7633		G7634		G7635		G7636		G7637		G7638		G7639		G7640		G7641		G7642		G7643		G7644		G7645		G7646		G7647		G7648		G7649		G7650		G7651		G7652		G7653		G7654		G7655		G7656		G7657		G7658		G7659		G7660		G7661		G7662		G7663		G7664		G7665		G7666		G7667		G7668		G7669		G7670		G7671		G7672		G7673		G7674		G7675		G7676		G7677		G7678		G7679		G7680		G7681		G7682		G7683		G7684		G7685		G7686		G7687		G7688		G7689		G7690		G7691		G7692		G7693		G7694		G7695		G7696		G7697		G7698		G7699		G7700		G7701		G7702		G7703		G7704		G7705		G7706		G7707		G7708		G7709		G7710		G7711		G7712		G7713		G7714		G7715		G7716		G7717		G7718		G7719		G7720		G7721		G7722		G7723		G7724		G7725		G7726		G7727		G7728		G7729		G7730		G7731		G7732		G7733		G7734		G7735		G7736		G7737		G7738		G7739		G7740		G7741		G7742		G7743		G7744		G7745		G7746		G7747		G7748		G7749		G7750		G7751		G7752		G7753		G7754		G7755		G7756		G7757		G7758		G7759		G7760		G7761		G7762		G7763		G7764		G7765		G7766		G7767		G7768		G7769		G7770		G7771		G7772		G7773		G7774		G7775		G7776		G7777		G7778		G7779		G7780		G7781		G7782		G7783		G7784		G7785		G7786		G7787		G7788		G7789		G7790		G7791		G7792		G7793		G7794		G7795		G7796		G7797		G7798		G7799		G7800		G7801		G7802		G7803		G7804		G7805		G7806		G7807		G7808		G7809		G7810		G7811		G7812		G7813		G7814		G7815		G7816		G7817		G7818		G7819		G7820		G7821		G7822		G7823		G7824		G7825		G7826		G7827		G7828		G7829		G7830		G7831		G7832		G7833		G7834		G7835		G7836		G7837		G7838		G7839		G7840		G7841		G7842		G7843		G7844		G7845		G7846		G7847		G7848		G7849		G7850		G7851		G7852		G7853		G7854		G7855		G7856		G7857		G7858		G7859		G7860		G7861		G7862		G7863		G7864		G7865		G7866		G7867		G7868		G7869		G7870		G7871		G7872		G7873		G7874		G7875		G7876		G7877		G7878		G7879		G7880		G7881		G7882		G7883		G7884		G7885		G7886		G7887		G7888		G7889		G7890		G7891		G7892		G7893		G7894		G7895		G7896		G7897		G7898		G7899		G7900		G7901		G7902		G7903		G7904		G7905		G7906		G7907		G7908		G7909		G7910		G7911		G7912		G7913		G7914		G7915		G7916		G7917		G7918		G7919		G7920		G7921		G7922		G7923		G7924		G7925		G7926		G7927		G7928		G7929		G7930		G7931		G7932		G7933		G7934		G7935		G7936		G7937		G7938		G7939		G7940		G7941		G7942		G7943		G7944		G7945		G7946		G7947		G7948		G7949		G7950		G7951		G7952		G7953		G7954		G7955		G7956		G7957		G7958		G7959		G7960		G7961		G7962		G7963		G7964		G7965		G7966		G7967		G7968		G7969		G7970		G7971		G7972		G7973		G7974		G7975		G7976		G7977		G7978		G7979		G7980		G7981		G7982		G7983		G7984		G7985		G7986		G7987		G7988		G7989		G7990		G7991		G7992		G7993		G7994		G7995		G7996		G7997		G7998		G7999		G8000	
	GR-DV1100	OPEN	OPEN	OPEN	OPEN	USED	OPEN	OPEN	22K	USED	OPEN	OPEN	USED	OPEN	OPEN	0G	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN																																																																																																																																																																																																																																																																																																																																														

- **When ordering parts, be sure to order according to the Part Number indicated in the Parts List.**



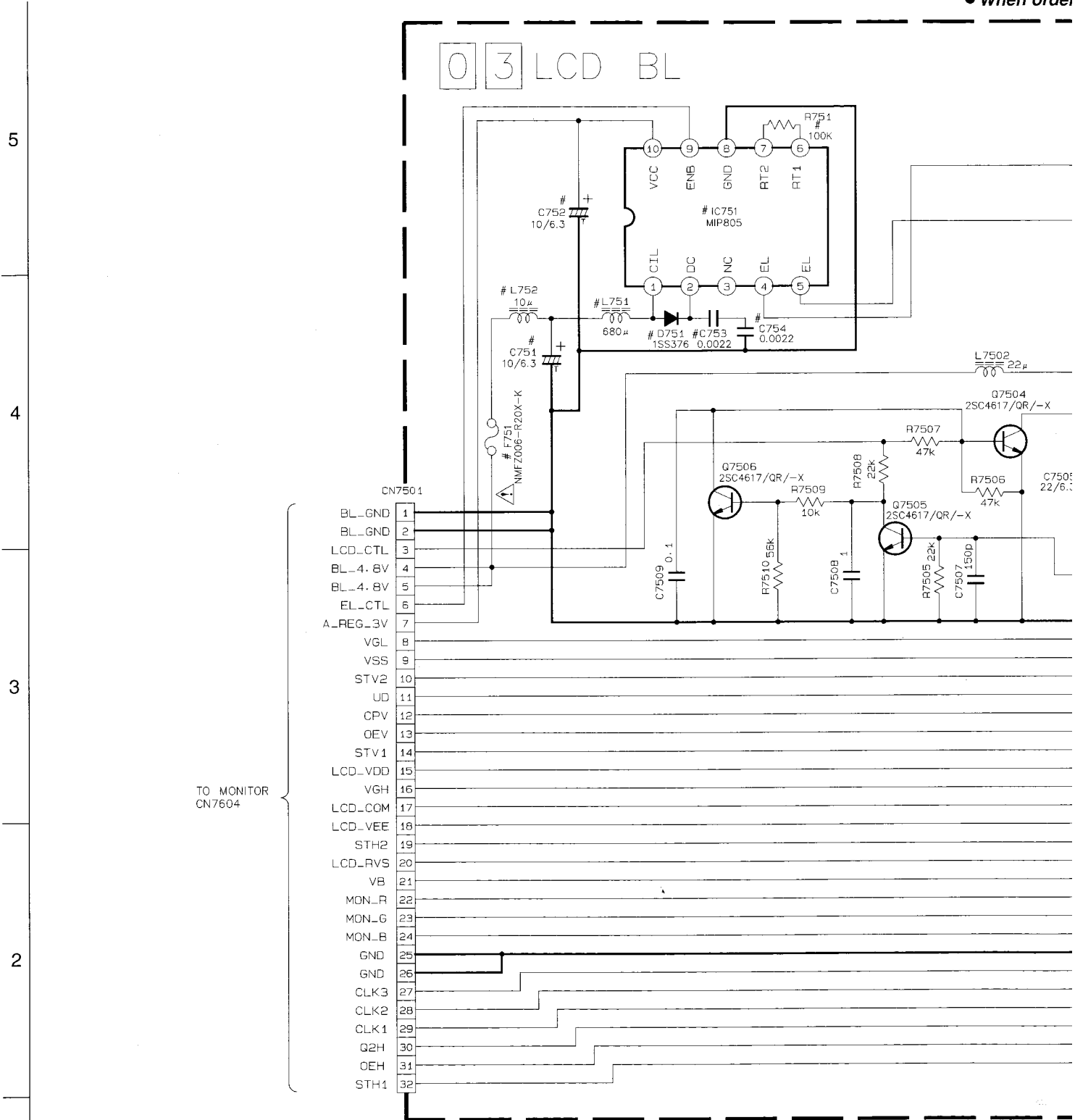
F

G

H

4.17 LCD BL SCHEMATIC DIAGRAM

NOTES: ● For the des
this diagram
● When orde



NOTE : COMPARISON CHART OF MODELS & MARKS (#).

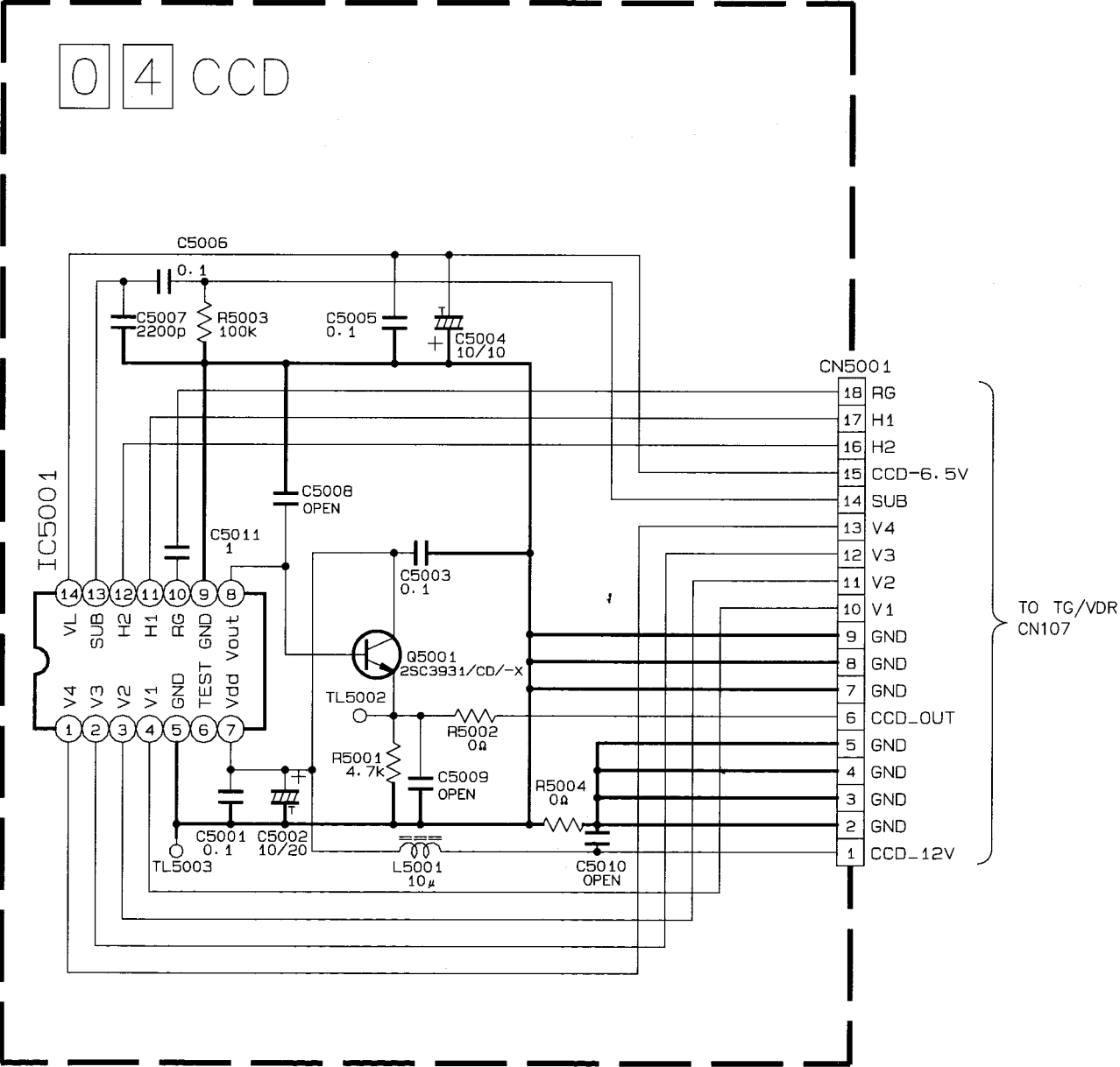
REF. NO MODELS	IC751	D751	R751	C751 C754	C7501	C7502	L751 L752	CN7504	F751
GR-DVL100	OPEN	OPEN	OPEN	OPEN	15P	15P	OPEN	OPEN	OPEN
GR-DVL300	OPEN	OPEN	OPEN	OPEN	15P	15P	OPEN	OPEN	OPEN
GR-DVL305	OPEN	OPEN	OPEN	OPEN	15P	15P	OPEN	OPEN	OPEN
GR-DVL307	USED	USED	USED	USED	15P	18P	USED	USED	USED
GR-DVL500	USED	USED	USED	USED	15P	18P	USED	USED	USED
GR-DVL507	USED	USED	USED	USED	18P	18P	USED	USED	USED

[illegible]

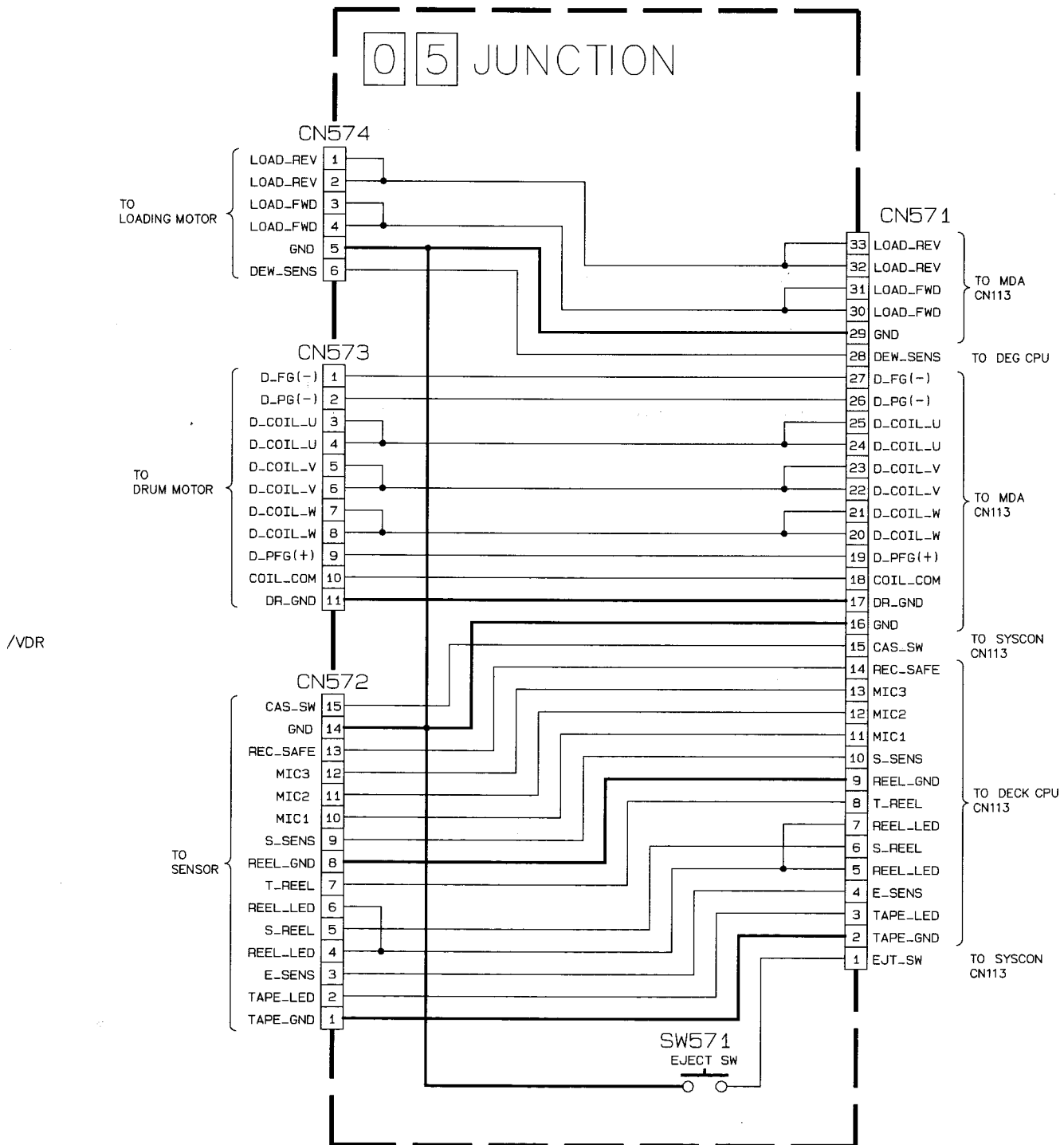
4.18 CCD AND JUNCTION SCHEMATIC DIAGRAMS

- NOTES: ● For the destination of each signal and further line co
this diagram, refer to “4.1 BOARD INTERCONNECTIC
● When ordering parts, be sure to order according to ti

Note: IC5001 is incorporated in the CCD base assembly.
When IC5001 needs replacement, replace the CCD
base assembly in whole because it cannot be re-
placed alone.

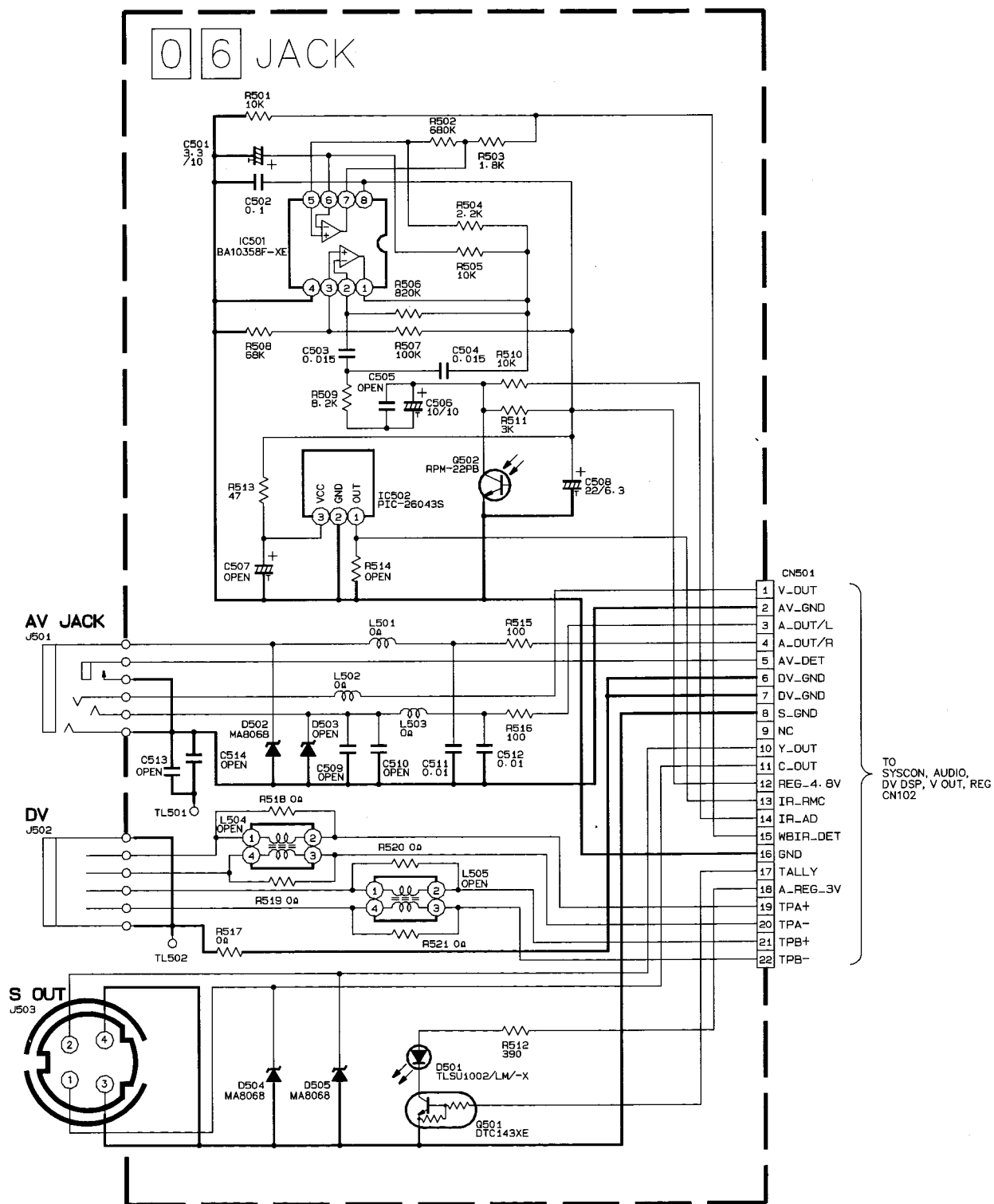


line connections that are cut off from
VECTIONS".
ng to the Part Number indicated in the Parts List.

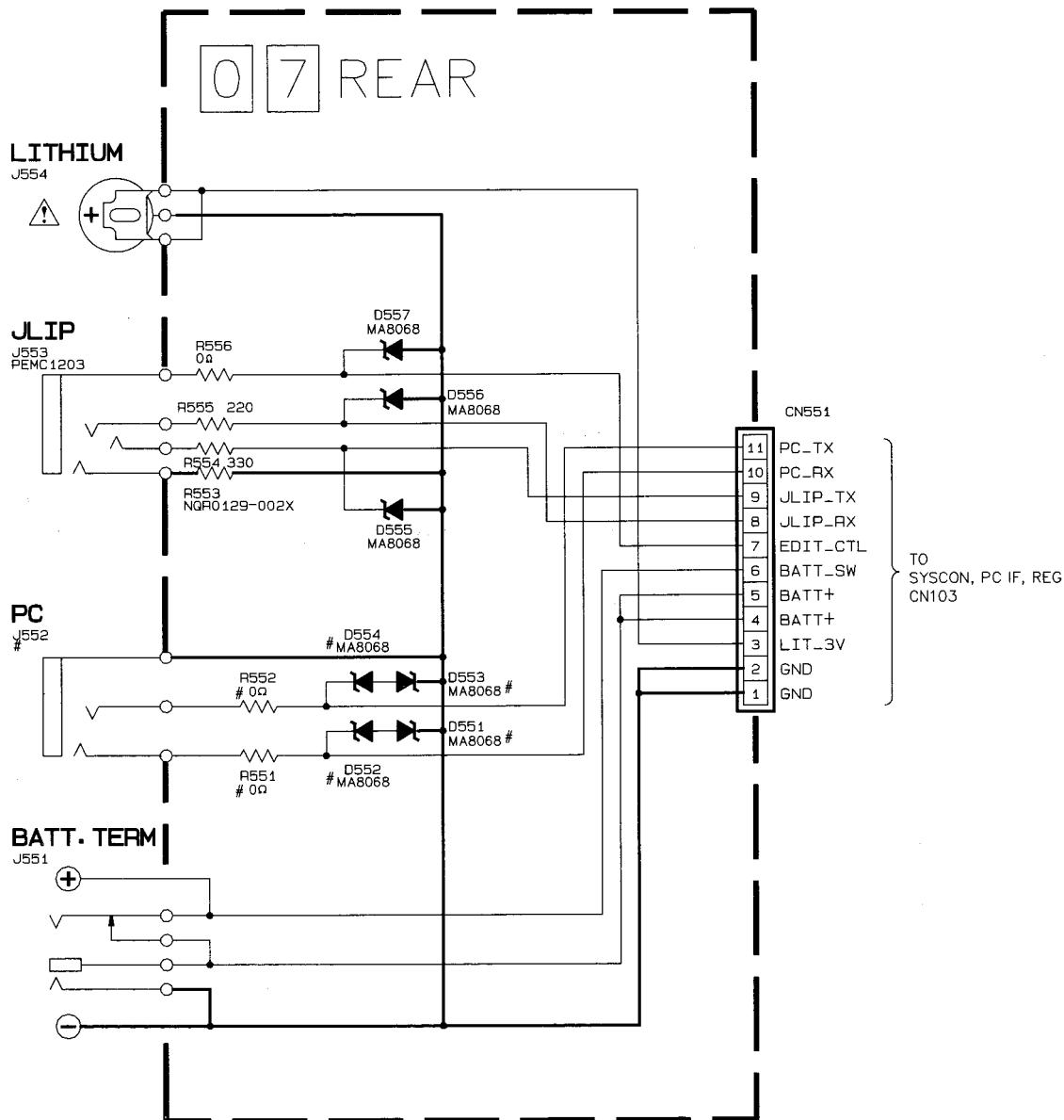


4.19 JACK AND REAR SCHEMATIC DIAGRAMS

NOTES: ● For the destination of each signal and further this diagram, refer to "4.1 BOARD INTERCC"
● When ordering parts, be sure to order acco



and further line connections that are cut off from
"TERCONNECTIONS".
or according to the Part Number indicated in the Parts List.

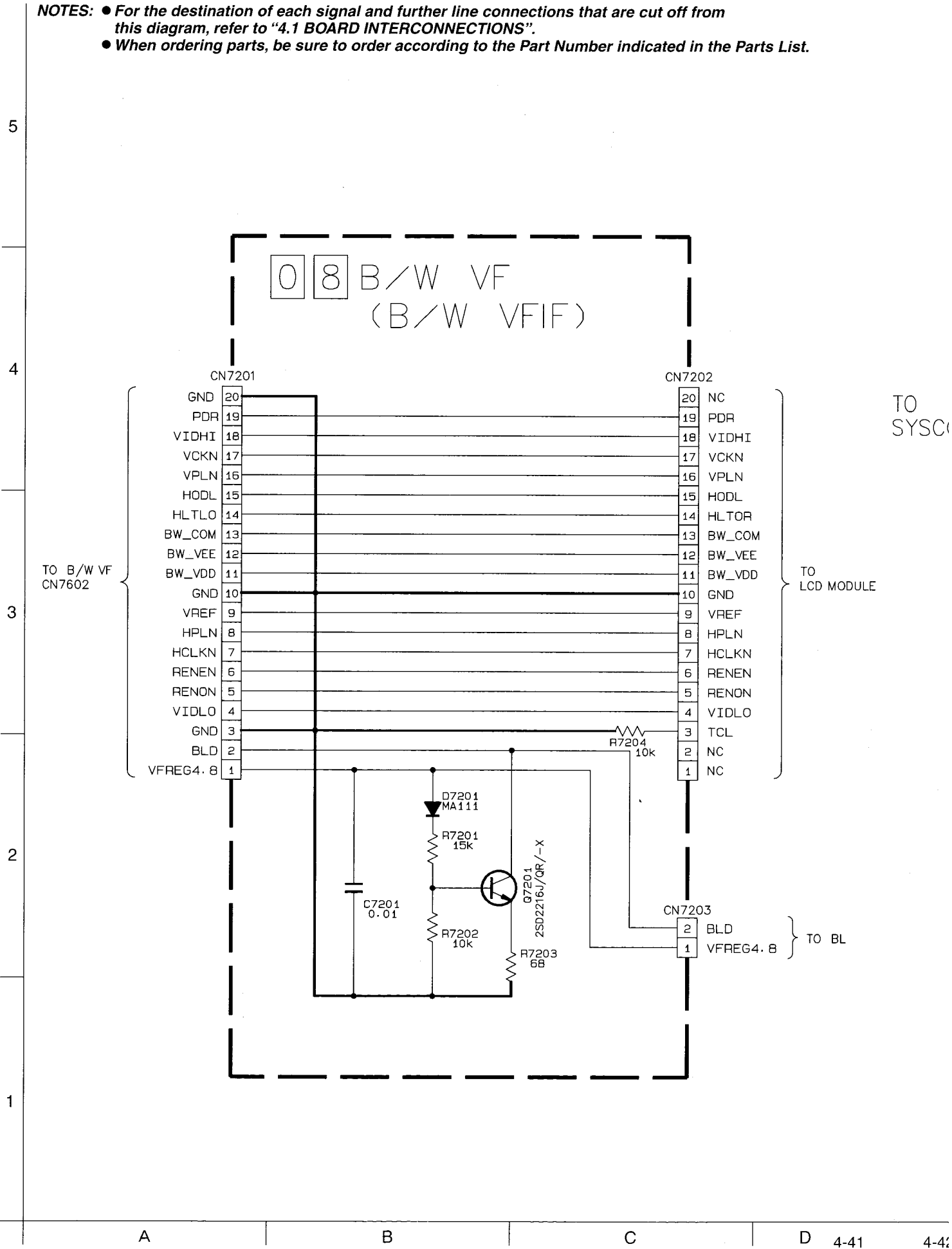


NOTE : COMPARISON CHART OF MODELS & MARKS (#) .

REF. NO MODELS	D551 D554	R551 R552	J552
GR-DVL100	OPEN	OPEN	OPEN
GR-DVL300	USED	USED	USED
GR-DVL305	OPEN	OPEN	OPEN
GR-DVL307	OPEN	OPEN	OPEN
GR-DVL500	USED	USED	USED
GR-DVL507	USED	USED	USED

4.20 B/W VFIF AND ZOOM UNIT SCHEMATIC DIAGRAMS

NOTES: ● For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".
● When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

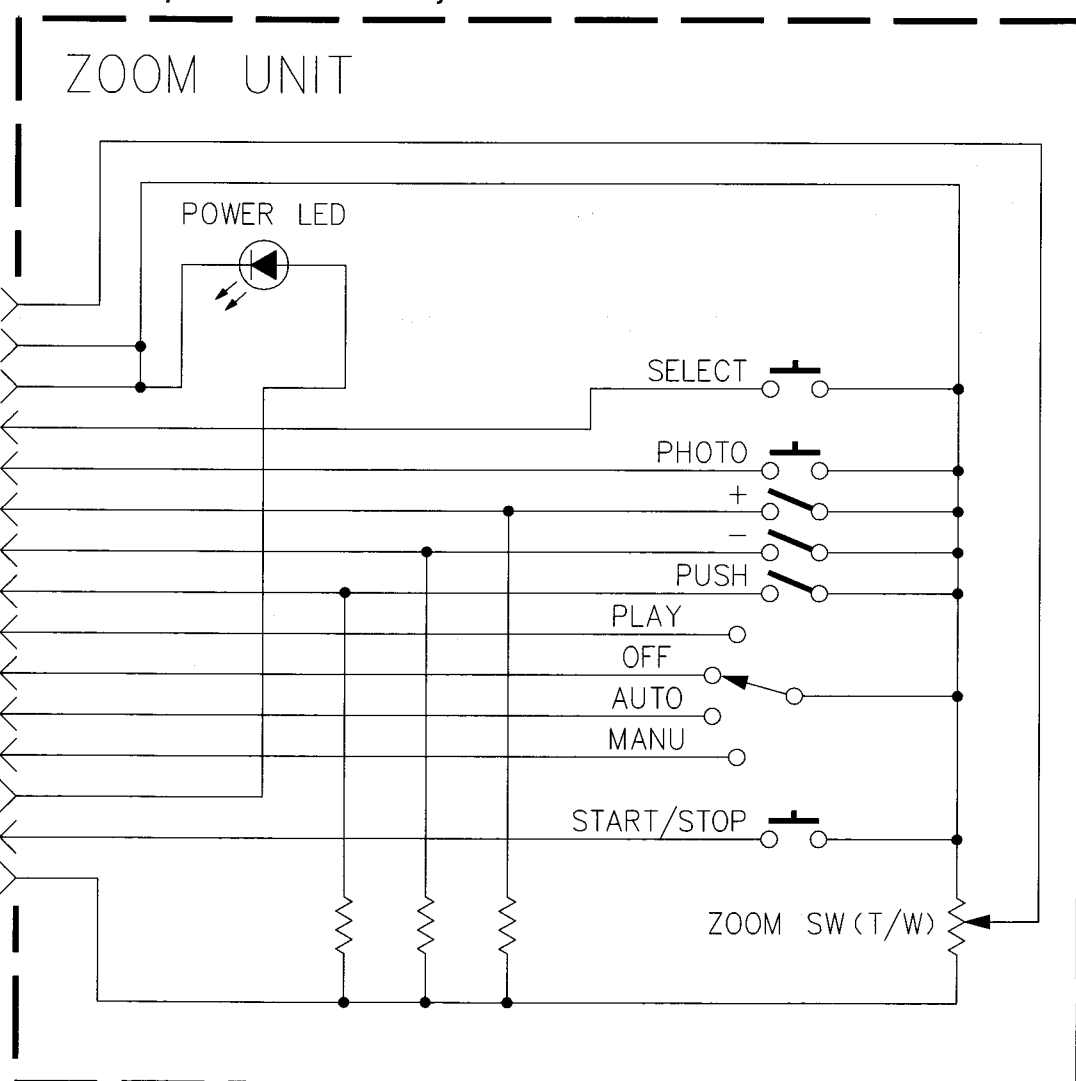


- NOTES:**
- For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".
 - The schematic diagram is only for reference. Avoid replacing individual parts. Replace the entire unit only.

TO
SYS-CON, REG

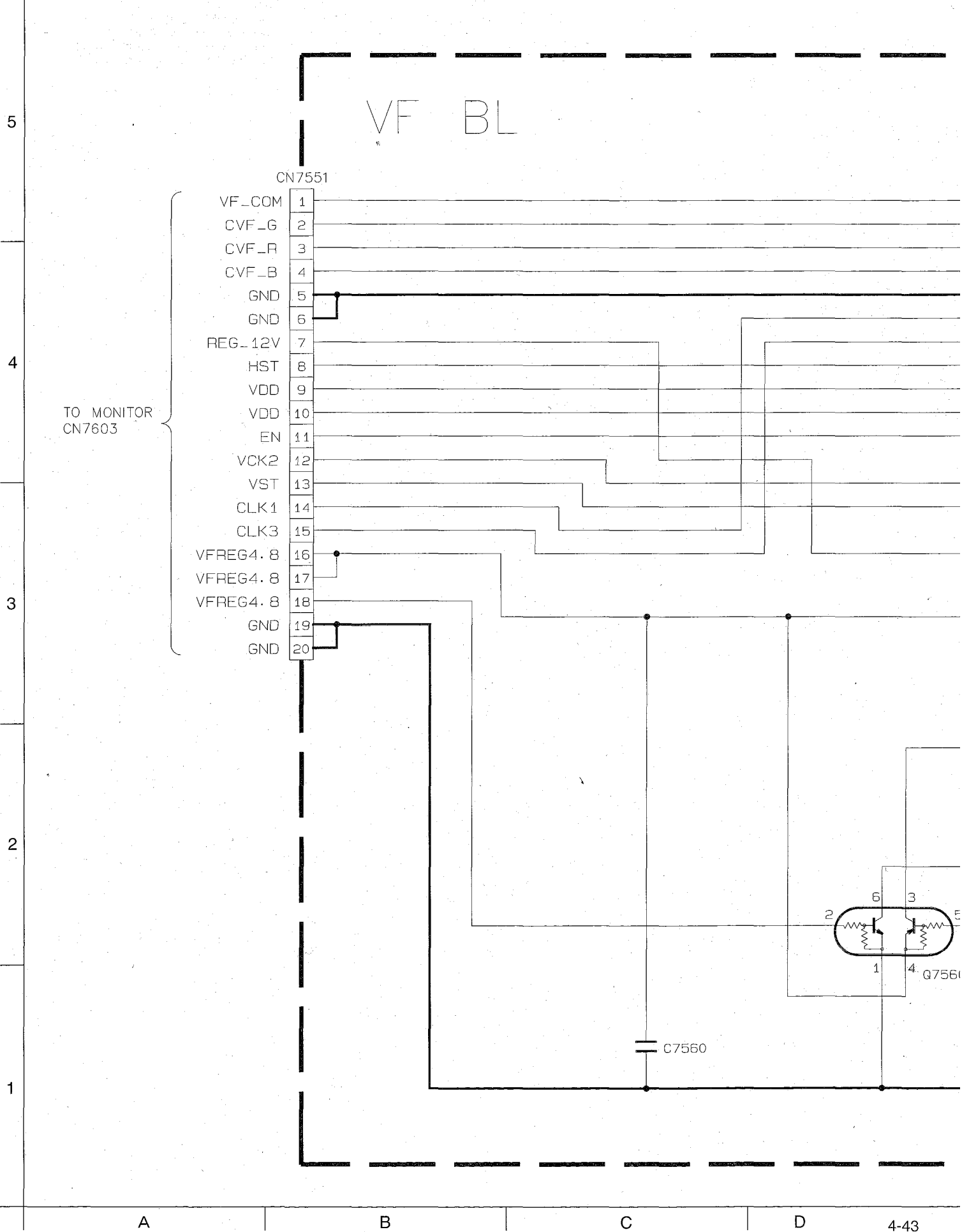
CN114

- | | | |
|------|-------------|---|
| [15] | ZOOM_SW | > |
| [14] | GND | > |
| [13] | GND/LED_GND | > |
| [12] | SEL_SW | < |
| [11] | PHOTO_SW | < |
| [10] | MENU_P_A | < |
| [9] | MENU_P_B | < |
| [8] | MENU_SET | < |
| [7] | DIAL_PB | < |
| [6] | DIAL_OFF | < |
| [5] | DIAL_AT | < |
| [4] | DIAL_MN | < |
| [3] | POWER_LED | > |
| [2] | TRIG_SW | < |
| [1] | A_REG_3V | > |

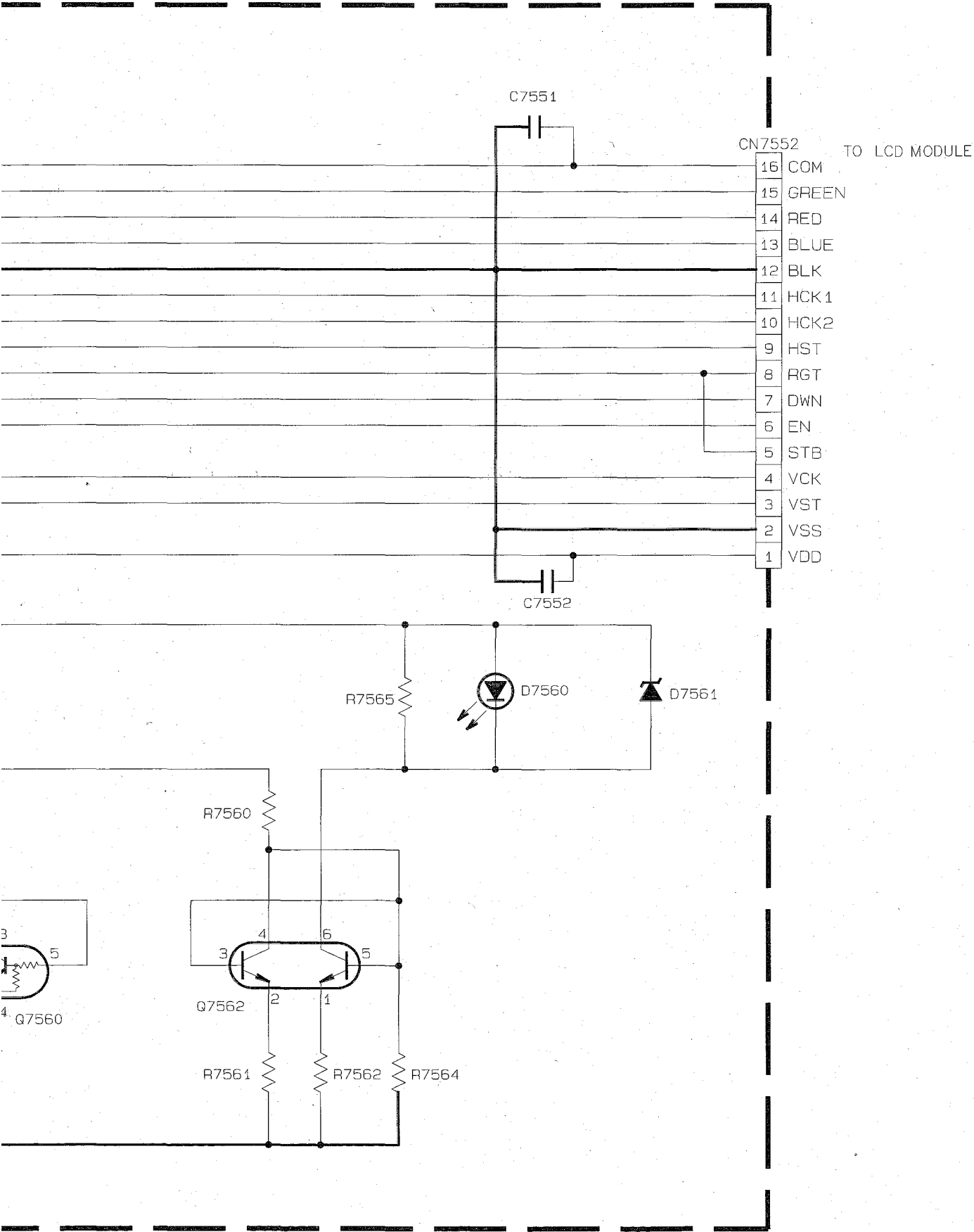


4.21 VF BL SCHEMATIC DIAGRAM

NOT

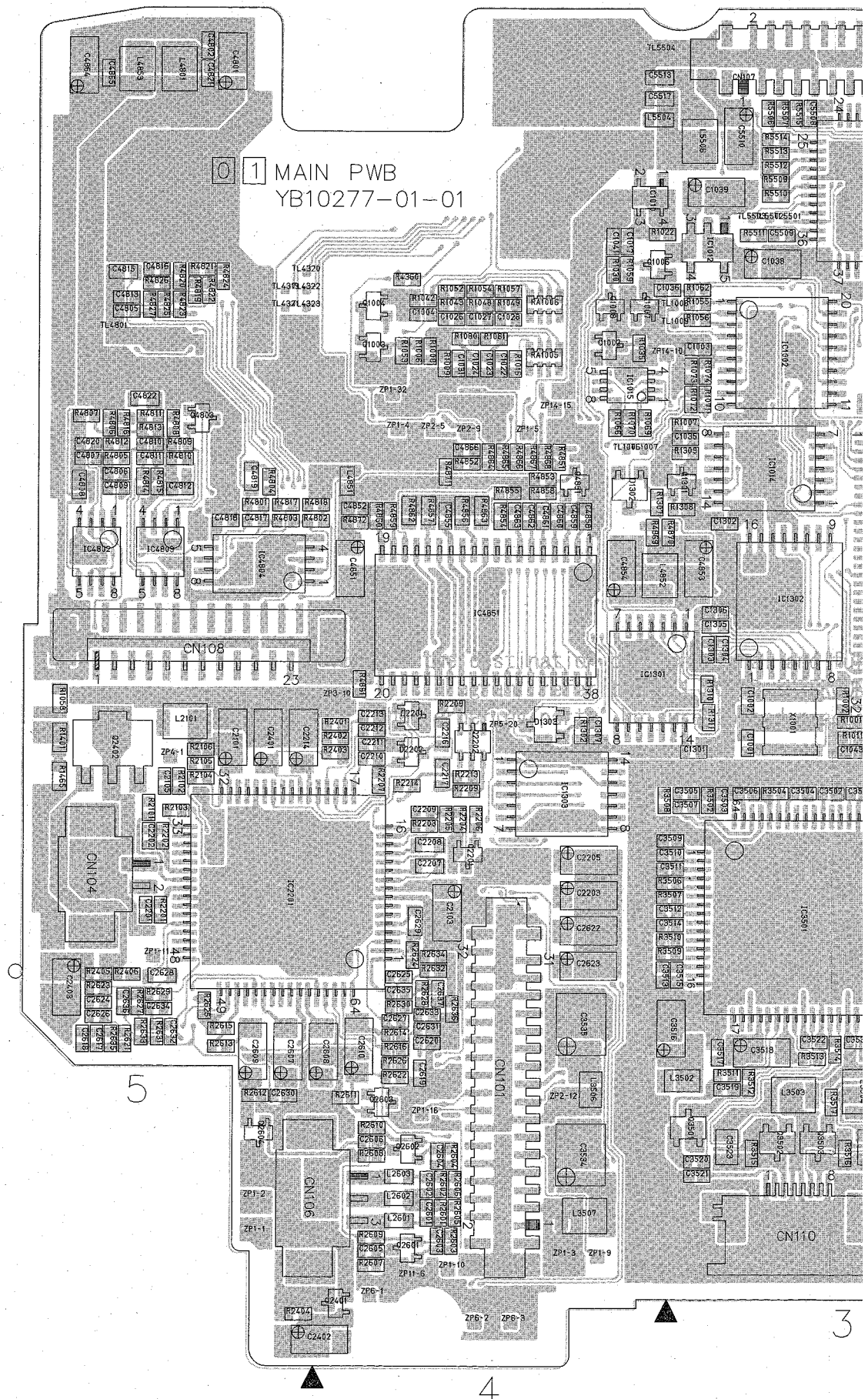


NOTES: ● For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".
● The schematic diagram is only for reference. Avoid replacing individual parts. Replace the entire unit only.



4.22 MAIN CIRCUIT BOARD

FOIL SIDE



COMPONENT PARTS LOCATION GUIDE (MAIN)

REF.No.	LOCATION	REF.No.	LOCATION	REF.No.	LOCATION	REF.No.	LOCATION	REF.No.	LOCATION	REF.No.	LOCATION
CAPACITOR		C2619	B C 4D	C3516	B C 3C	C4852	B C 4B	D6151	A C 2B	TRANSISTOR	
C1001	B C 3C	C2620	B C 4C	C3517	B C 3C	C4853	B C 3B	D6152	B C 2C	Q1002	B C 4A
C1002	B C 3B	C2621	B C 4C	C3518	B C 3C	C4854	B C 4B	D6161	B C 2C	Q1003	B C 4A
C1003	B C 3A	C2622	B C 4C	C3519	B C 3C	C4855	B C 4B	D6163	B C 2C	Q1004	B C 4A
C1004	B C 4A	C2623	B C 4C	C3520	B C 3C	C4856	B C 4B	D6165	B C 2C	Q1006	B C 4A
C1008	B C 2B	C2624	B C 4C	C3521	B C 3C	C4860	B C 4B	IC		Q1007	B C 4A
C1009	B C 3B	C2625	B C 4C	C3522	B C 3C	C4861	B C 4B	IC1001	B C 2B	Q1008	B C 4A
C1010	B C 3B	C2626	B C 4C	C3523	B C 3C	C4862	B C 4B	IC1002	B C 3A	Q1009	B C 2C
C1011	B C 3A	C2627	B C 4C	C3524	B C 3C	C4863	B C 4B	IC1003	B C 2C	Q1010	B C 2C
C1012	B C 2C	C2628	B C 4C	C3525	B C 3C	C4864	B C 5A	IC1004	B C 2C	Q1301	B C 3B
C1013	B C 1C	C2629	B C 4C	C3526	B C 3C	C4865	B C 5A	IC1009	B C 3A	Q1401	A C 2B
C1014	B C 2B	C2630	B C 4C	C3527	B C 3C	C4866	B C 4B	IC1010	B C 4A	Q1402	B C 1B
C1015	B C 1C	C2631	B C 4C	C3528	B C 3C	C5501	B C 3A	IC1012	B C 3A	Q1403	B C 1B
C1016	B C 3A	C2632	B C 4C	C3529	B C 3C	C5502	B C 2A	IC1014	B C 3B	Q1601	A C 2B
C1017	B C 4A	C2633	B C 4C	C3530	B C 3C	C5503	B C 2A	IC1015	B C 4B	Q2201	B C 4C
C1019	B C 1B	C2634	B C 4C	C3531	B C 3C	C5504	B C 3A	IC1301	B C 4B	Q2202	B C 4C
C1021	B C 2B	C2635	B C 4C	C3532	B C 3C	C5505	B C 2B	IC1302	B C 3B	Q2401	B C 5C
C1022	B C 4B	C2636	B C 4C	C3533	B C 3C	C5506	B C 2A	IC1303	B C 4C	Q2402	B C 5C
C1023	B C 4B	C2637	B C 4C	C3534	B C 3C	C5507	B C 3A	IC1401	A C 2B	Q2601	B C 4D
C1024	B C 4B	C3002	A C 3B	C3535	B C 4C	C5508	B C 3A	IC1402	B C 1A	Q2802	B C 4D
C1026	B C 4A	C3003	A C 3B	C3701	A C 5A	C5509	B C 3A	IC1403	B C 1B	Q2803	B C 4D
C1027	B C 4A	C3004	A C 3B	C3702	A C 5A	C5510	B C 3A	IC1405	B C 1B	Q2804	B C 5D
C1028	B C 4A	C3005	A C 3B	C3703	A C 5B	C5511	B C 3A	IC1601	A C 1B	Q3501	B C 3D
C1031	B C 4B	C3006	A C 3C	C3704	A C 5B	C5512	B C 2A	IC2201	B C 5C	Q3502	B C 3D
C1032	B C 2B	C3007	A C 4C	C3705	A C 5A	C5513	B C 4A	IC3001	A C 5C	Q3503	B C 3D
C1034	B C 1B	C3009	A C 4B	C3706	A C 5B	C5514	B C 3A	IC3002	A C 4B	Q3504	B C 3C
C1035	B C 3B	C3010	A C 4B	C3707	A C 5A	C5515	B C 2A	IC3003	A C 4B	Q3505	B C 3D
C1036	B C 4A	C3011	A C 4B	C3708	A C 5A	C5516	B C 2B	IC3004	A C 4B	Q3701	A C 5A
C1037	B C 1A	C3012	A C 4B	C3709	A C 5B	C5517	B C 2A	IC3005	A C 4B	Q3702	A C 5B
C1038	B C 3A	C3022	A C 3B	C3710	A C 5B	C5518	B C 2A	IC3007	A C 3C	Q3703	A C 5B
C1039	B C 3A	C3023	A C 4B	C3711	A C 5B	C5519	B C 2A	IC3101	A C 5C	Q3704	A C 5B
C1040	B C 2B	C3027	A C 4C	C3712	A C 5B	C6001	B C 1C	IC3201	A C 2C	Q3705	A C 5B
C1041	B C 4A	C3028	A C 4C	C3713	A C 5B	C6002	B C 1D	IC3202	A C 4D	Q3706	A C 5B
C1042	B C 2B	C3035	A C 4B	C3714	A C 5B	C6003	B C 2D	IC3203	A C 3D	Q3707	A C 5B
C1043	B C 3C	C3037	A C 4B	C4201	A C 5A	C6004	A C 2D	IC3301	A C 4D	Q3708	A C 5A
C1301	B C 3C	C3038	A C 4C	C4202	A C 5A	C6005	A C 2D	IC3501	B C 3C	Q3709	A C 5B
C1302	B C 3B	C3040	A C 4B	C4203	A C 5A	C6006	A C 2D	IC3701	A C 5B	Q3710	A C 5B
C1303	B C 3B	C3041	A C 4B	C4204	A C 5A	C6007	A C 2D	IC4201	A C 4A	Q3711	A C 5B
C1304	B C 3B	C3042	A C 4C	C4205	A C 5A	C6008	A C 2D	IC4202	A C 5A	Q4302	A C 4B
C1305	B C 3B	C3047	A C 4C	C4206	A C 5A	C6009	A C 2D	IC4301	A C 3A	Q4303	A C 4B
C1306	B C 3B	C3048	A C 4C	C4207	A C 5A	C6010	A C 2D	IC4302	A C 3A	Q4304	A C 4B
C1307	B C 4B	C3049	A C 4C	C4208	A C 5A	C6011	A C 2D	IC4303	A C 3B	Q4803	B C 5B
C1401	B C 2B	C3050	A C 4B	C4209	A C 4A	C6012	A C 2D	IC4802	B C 5B	Q4851	B C 5B
C1402	B C 2B	C3101	A C 5C	C4210	A C 5A	C6013	A C 2D	IC4803	B C 5B	Q6111	B C 2C
C1411	A C 2B	C3102	A C 5C	C4211	A C 5A	C6014	A C 2D	IC4804	B C 5B	Q6112	B C 2C
C1412	A C 2B	C3103	A C 5C	C4212	A C 5A	C6015	A C 2D	IC4805	B C 5A	Q6122	B C 1C
C1413	A C 2B	C3104	A C 5C	C4213	A C 5A	C6016	A C 2D	IC4851	B C 4B	Q6123	B C 1D
C1414	A C 2B	C3105	A C 5C	C4214	A C 5A	C6017	A C 3D	IC5501	B C 3A	Q6124	B C 1D
C1415	A C 2B	C3106	A C 5C	C4215	A C 5A	C6018	A C 3D	IC6001	A C 3D	Q6131	B C 2C
C1416	A C 2B	C3107	A C 5C	C4216	A C 5A	C6019	A C 3D	IC6301	A C 2D	Q6132	A C 2C
C1417	A C 2B	C3108	A C 4C	C4217	A C 4A	C6022	A C 2D	COIL		Q6141	A C 1C
C1418	B C 1B	C3109	A C 5C	C4301	A C 3B	C6111	B C 2C	L1001	B C 2A	Q6151	A C 2B
C1419	B C 1B	C3203	A C 3C	C4302	A C 3A	C6113	A C 2C	L1002	B C 3A	Q6161	B C 2C
C1420	B C 3A	C3204	A C 3C	C4303	A C 3B	C6114	A C 1C	L1003	B C 1B	Q6162	B C 2C
C1421	A C 3B	C3205	A C 3C	C4304	A C 3B	C6121	B C 1C	L1401	B C 1B	Q6163	B C 3C
C1422	A C 3B	C3207	A C 3C	C4305	A C 3B	C6123	B C 1C	L1601	A C 1B	Q6164	B C 2C
C1423	A C 3B	C3208	A C 3C	C4306	A C 3B	C6125	B C 1C	L1602	A C 1C	Q6165	B C 2C
C1424	B C 1B	C3211	A C 3C	C4307	A C 4A	C6126	B C 1C	L2101	B C 5C	Q6166	B C 2C
C1425	A C 3B	C3212	A C 3C	C4308	A C 4A	C6127	B C 1C	L2601	B C 4D	Q6167	B C 2C
C1601	A C 1B	C3213	A C 3C	C4309	A C 5A	C6131	B C 2C	L2602	B C 4D	Q6168	B C 2C
C1602	A C 1B	C3214	A C 2C	C4310	A C 5B	C6132	A C 1C	L2603	B C 4D	Q6201	A C 2C
C1603	A C 1B	C3215	A C 2B	C4311	A C 4B	C6133	A C 1C	L3001	A C 4C	Q6202	A C 2D
C1605	A C 1A	C3217	A C 3C	C4312	A C 4B	C6134	B C 1C	L3002	A C 4C	Q6203	A C 2C
C1606	A C 1A	C3218	A C 3C	C4313	A C 4B	C6141	A C 1C	L3003	A C 4C	Q6301	A C 3D
C1607	A C 1A	C3219	A C 3B	C4314	A C 4A	C6142	A C 1C	L3004	A C 4C	Q6302	A C 3D
C1610	A C 1A	C3220	A C 3B	C4315	A C 4A	C6143	A C 1C	L3005	A C 4C	Q6303	A C 3D
C1611	A C 1A	C3221	A C 3B	C4316	A C 4A	C6144	B C 2C	L3101	A C 5C	Q6304	A C 3D
C1612	A C 1A	C3222	A C 2B	C4317	A C 4A	C6145	B C 2C	L3102	A C 5C	Q6305	A C 3D
C1613	A C 1A	C3223	A C 2C	C4318	A C 4B	C6151	B C 2C	L3103	A C 5C	RESISTOR	
C1614	A C 1C	C3224	A C 2C	C4319	A C 3A	C6153	B C 1C	L3104	A C 5C	R1001	B C 3C
C1615	A C 1B	C3227	A C 3D	C4320	A C 4B	C6154	B C 1C	L3202	A C 3C	R1002	B C 3B
C1616	A C 1B	C3228	A C 3D	C4321	A C 3A	C6155	B C 2C	L3203	A C 3D	R1003	B C 3C
C1617	A C 1B	C3229	A C 3D	C4322	A C 4A	C6157	B C 2C	L3204	A C 3D	R1004	B C 3C
C1618	A C 1B	C3230	A C 3D	C4323	A C 3A	C6161	A C 2D	L3301	A C 3D	R1005	B C 1C
C1619	A C 1B	C3231	A C 4D	C4324	A C 4A	C6162	B C 2C	L3302	A C 3D	R1006	B C 4A
C1620	A C 1B	C3232	A C 4D	C4325	A C 4B	C6163	B C 3C	L3303	A C 3D	R1007	B C 3B
C1621	A C 1B	C3301	A C 3D	C4326	A C 4A	C6164	B C 2C	L3304	A C 3D	R1008	B C 4B
C1622	A C 1B	C3302	A C 3D	C4327	A C 3B	C6165	B C 2C	L3502	B C 3D	R1009	B C 4B
C1623	A C 1B	C3303	A C 4D	C4328	A C 3B	C6166	B C 2C	L3503	B C 3D	R1010	B C 2C
C1624	A C 1B	C3304	A C 4D	C4329	A C 3B	C6167	B C 2C	L3504	B C 3D	R1011	B C 3C
C1625	A C 1B	C3305	A C 3D	C4330	A C 2A	C6168	B C 2C	L3505	B C 3D	R1012	B C 1A
C1626	A C 1B	C3306	A C 3D	C4331	A C 3A	C6171	B C 2C	L3506	B C 4D	R1013	B C 2B
C1627	A C 1A	C3307	A C 4C	C4332	A C 3A	C6173	B C 2C	L3507	B C 4D	R1014	B C 2B
C1628	A C 1A	C3308	A C 4D	C4333	A C 2A	C6174	B C 2C	L3701	A C 5A	R1015	B C 2B
C1632	A C 1B	C3309	A C 3D	C4334	A C 4B	C6175	B C 2C	L4201	A C 5A	R1016	B C 4B
C1633	A C 2B	C3310	A C 3D	C4335	A C 3A	C6201	B C 2D	L4302	A C 3B	R1017	B C 2B
C1635	A C 2B	C3311	A C 4D	C4336	A C 3A	C6301	A C 3D	L4303	A C 3B	R1018	B C 2B
C1638	A C 1A	C3312	A C 4D	C4337	A C 4A	C6302	A C 3C	L4304	A C 5B	R1021	B C 4A
C1639	A C 1A	C3313	A C 4D	C4338	A C 3A	C6401	B C 2C	L4305	A C 5A	R1022	B C 4A
C1640	A C 1B	C3314	A C 4D	C4339	A C 3A	C6402	B C 1C	L4306	A C 2A	R1025	B C 2B
C1641	A C 1B	C3316	A C 4D	C4340	A C 3A	CONNECTOR		L4307	A C 3B	R1026	B C 2B
C1642	A C 1A	C3317	A C 4D	C4341	A C 3A	CN101	B C 4D	L4801	B C 5A	R1030	B C 4A
C2101	B C 5C	C3318	A C 4D	C4342	A C 3A	CN102	B C 4D	L4802	A C 5A	R1034	B C 2B
C2103	B C 4C	C3319	A C 4D	C4343	A C 3A	CN103	B C 1D	L4851	B C 4B	R1035	B C 2C
C2105	B C 5C	C3320	A C 4D	C4344	A C 3A	CN104	B C 5C	L4852	B C 4B	R1037	B C 4A
C2201	B C 5C	C3321	A C 3C	C4345	A C 4A	CN105	B C 1B	L4853	B C 4B	R1038	B C 2C
C2202	B C 5C	C3322	A C 3D	C4346	A C 4A	CN106	B C 4D	L5501	B C 5A	R1039	B C 2C
C2203	B C 4C	C3323	A C 3D	C4347	A C 3B	CN107	B C 3A	L5502	B C 2A	R1042	B C 4A
C2205	B C 4C	C3324	A C 3C	C4351	A C 3B	CN108	B C 5B	L5503	B C 2A	R1043	B C 4A
C2207	B C 4C	C3326	A C 3D	C4352	A C 3B	CN109	B C 1C	L5504	B C 2A	R1045	B C 2C
C2208	B C 4C	C3327	A C 3D	C4353	A C 3B	CN110	B C 3D	L5505	B C 2A	R1046	B C 2B
C2209	B C 4C	C3328	A C 3D	C4801	B C 5A	CN111	A C 1D	L5506	B C 3A	R1047	B C 4A
C2210	B C 4C	C3329	A C 3D	C4802	B C 5A	CN112	A C 2D	L6001	B C 2D	R1048	B C 4A
C2211	B C 4C	C3330	A C 3D	C4803	B C 5B	CN113	B C 1B	L6002	B C 2D	R1049	B C 4A
C2212	B C 4C	C3331	A C 3D	C4804	B C 5B	DIODE		L6111	A C 1C	R1050	B C 3C
C2213	B C 4C	C3332	A C 3D	C4805	B C 5B	D1001	B C 1C	L6112	A C 1C		

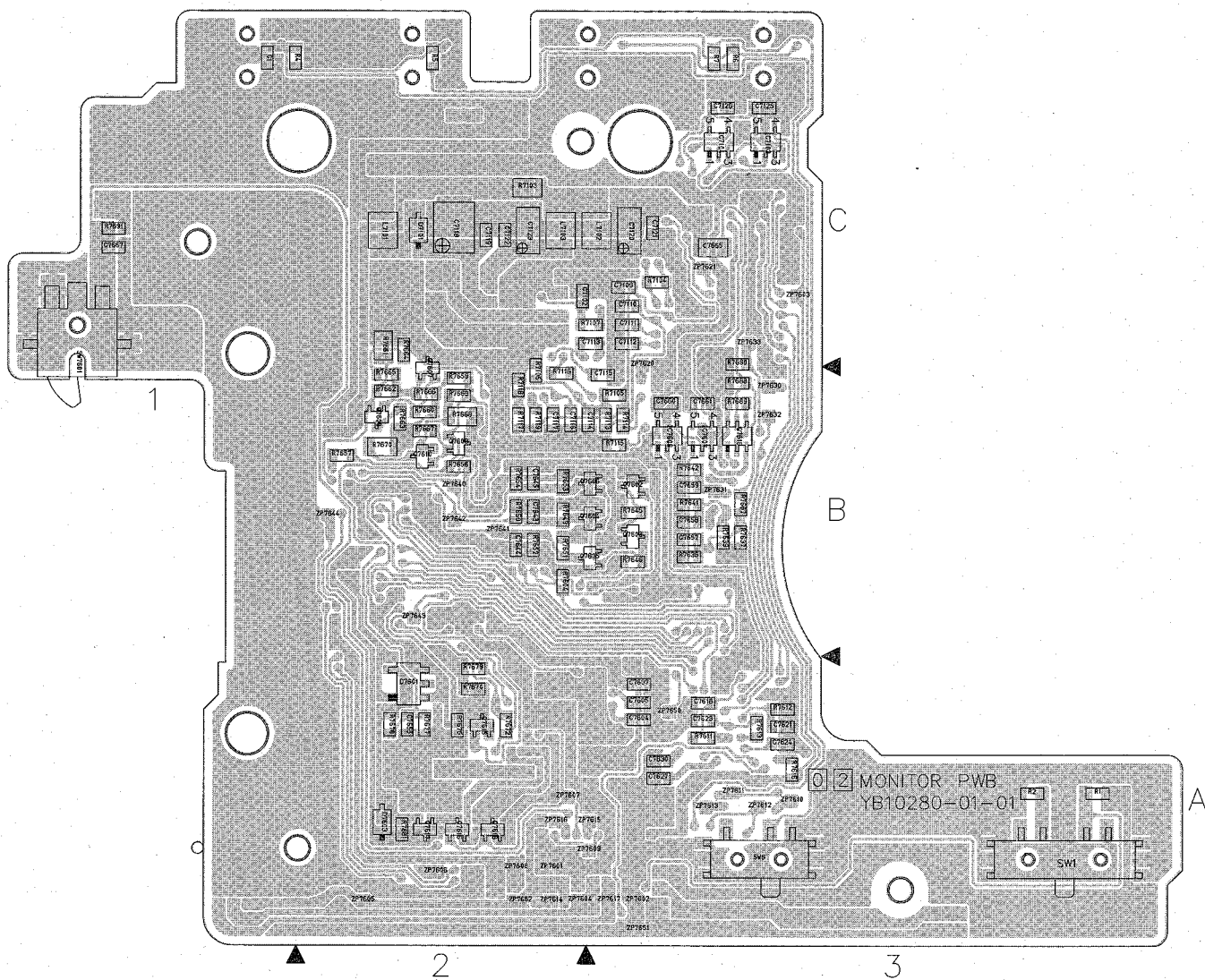
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ATTENTION:
POUR UNE PROTECTION PERMANENTE
CONTRE LES RISQUE D'INCENDIE,
REPLACER LE FUSIBLE PAR UN AUTRE
DE MEME TYPE ET DE MEME TENSION.



MONITOR CIRCUIT BOARD

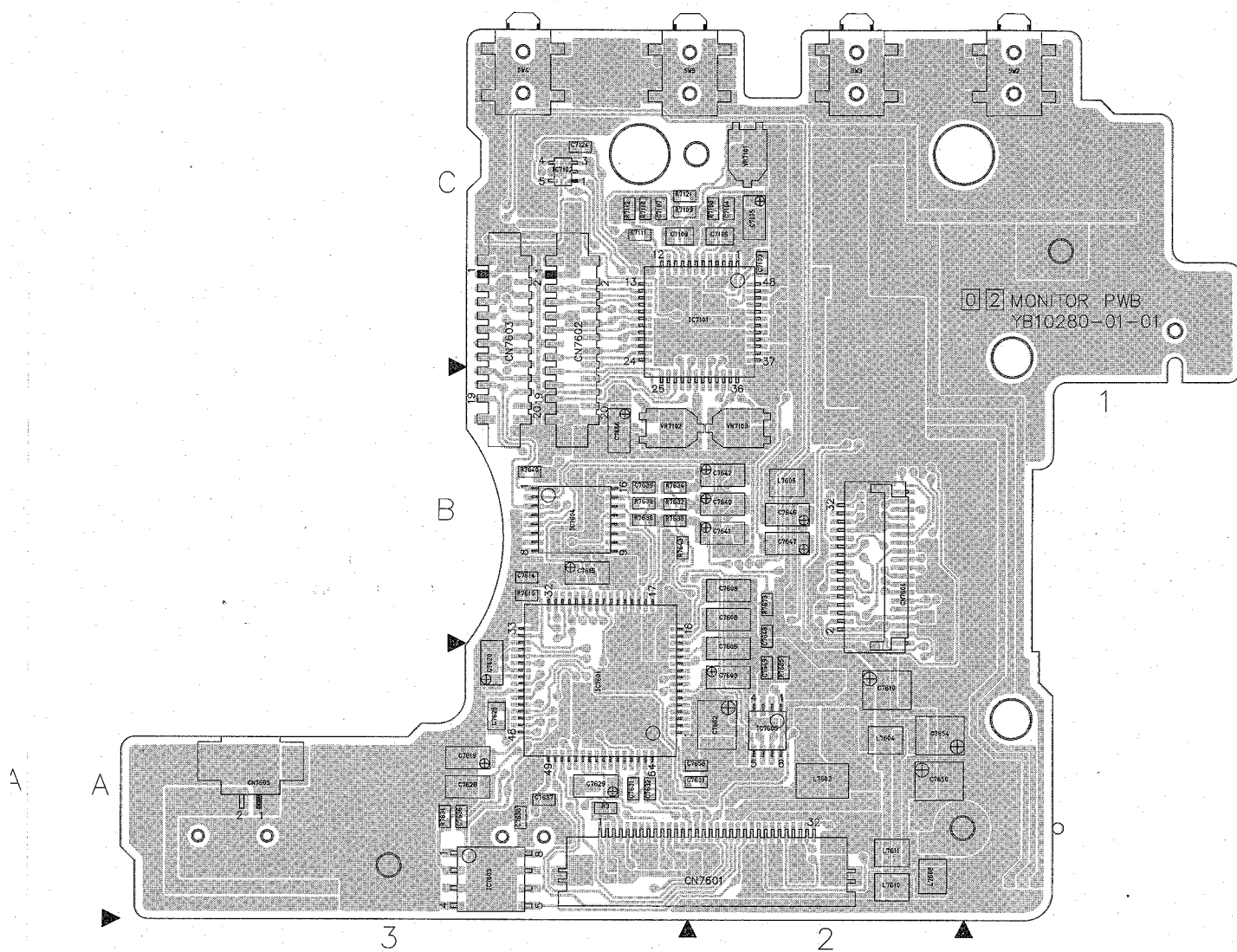
FOIL SIDE (B)



COMPONENT PARTS LOCATION GUIDE (MONITOR)

REF.No.	LOCATION	REF.No.	LOCATION	REF.No.	LOCATION	REF.No.	LOCATION	REF.No.	LOCATION
CAPACITOR						DIODE			TRAN
C1	B C 1C	C7602	A C 2A	C7640	A C 2B				
C7102	B C 3C	C7603	A C 2A	C7641	A C 2B	D7101	B C 2C	Q7602	
C7103	A C 2C	C7604	B C 3A	C7642	A C 2B	D7601	B C 2A	Q7603	
C7104	A C 2C	C7605	B C 3A	C7643	B C 2B	D7603	B C 2A	Q7604	
C7105	A C 2C	C7606	A C 2A	C7644	B C 2B			Q7605	
C7106	A C 2C	C7607	B C 3A	C7645	B C 2B	IC			Q7606
C7107	A C 3C	C7608	A C 2B	C7646	A C 2B	IC7101	A C 2C	Q7607	
C7108	A C 3C	C7609	A C 2B	C7647	A C 2B	IC7102	A C 3C	Q7608	
C7109	B C 3C	C7610	A C 2A	C7648	A C 2B	IC7103	B C 3C	Q7609	
C7110	B C 3C	C7611	A C 3B	C7649	A C 2A	IC7104	B C 3C	Q7610	
C7111	B C 3C	C7612	A C 3B	C7650	A C 2A	IC7601	A C 3A	Q7615	
C7112	B C 3C	C7613	B C 3A	C7651	A C 2A	IC7603	A C 3A	Q7616	
C7113	B C 3C	C7614	A C 3A	C7652	B C 2A	IC7604	A C 3B	Q7617	
C7114	B C 3B	C7615	A C 3A	C7653	A C 3A	IC7605	A C 2A	Q7618	
C7115	B C 3B	C7616	B C 3A	C7654	B C 3B	IC7606	B C 3B	Q7619	
C7116	B C 2B	C7617	B C 3A	C7655	B C 3B	IC7607	B C 3B		RESI
C7117	B C 2B	C7618	A C 3A	C7656	B C 3B	COIL			R1
C7118	B C 2C	C7619	B C 3A	C7657	B C 3B	L7101	B C 2C	R2	
C7119	B C 2C	C7620	A C 3A	C7658	B C 3C	L7102	B C 3C	R3	
C7120	B C 3C	C7621	A C 3A	C7659	A C 3B	L7103	B C 2C	R4	
C7121	B C 3C	C7622	B C 3A	C7660	A C 3B	L7603	A C 2A	R5	
C7122	B C 2C	C7623	A C 3A	C7661	B C 3B	L7604	A C 2A	R6	
C7123	B C 2C	C7624	A C 3A	C7662	B C 3B	L7605	A C 2B	R7	
C7124	A C 3C	C7625	A C 3A	C7663	B C 3C	L7608	A C 2A	R7103	
C7125	B C 3C	C7626	A C 3A	C7664	A C 3B	L7610	A C 2A	R7104	
C7126	B C 3C	C7627	B C 3A	C7665	B C 1C	L7611	A C 2A	R7105	
C7601	A C 3A	C7628	A C 3B	C7666	B C 1C				R7106
		C7629	A C 3A	C7667	B C 1C				
		C7630	A C 3A	CONNECTOR					
		C7631	A C 3A	CN7601	A C 3A				
		C7632	A C 3A	CN7602	A C 3C				
		C7633	A C 3A	CN7603	A C 3C				
		C7634	A C 3B	CN7604	A C 2B				

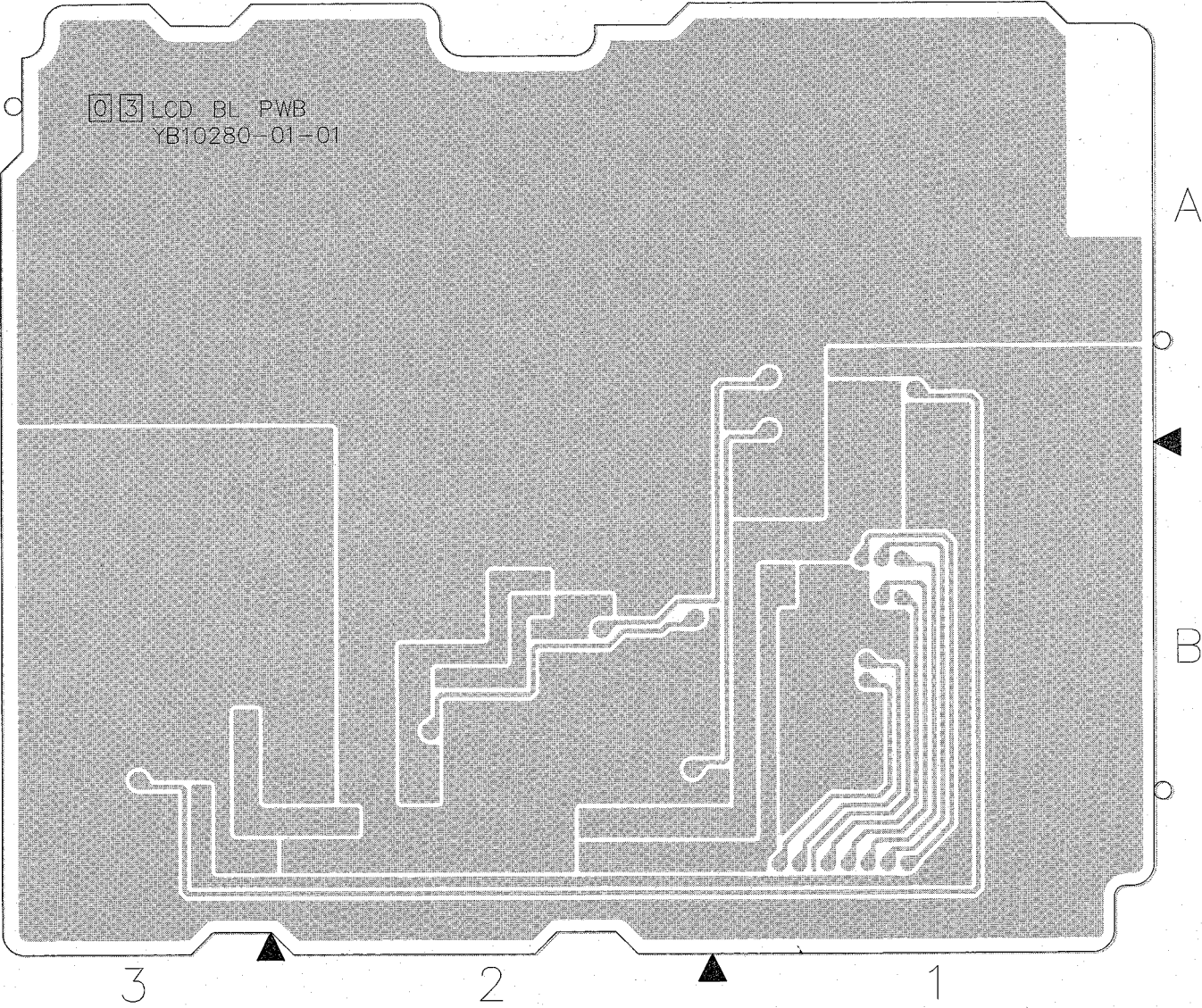
COMPONENT SIDE (A)



REF.No.	LOCATION			REF.No.	LOCATION			REF.No.	LOCATION			REF.No.	LOCATION			REF.No.	LOCATION		
TRANSISTOR				R7107	B	C	3C	R7639	B	C	3B	R7673	A	C	2B	ZP7604	B	C	3A
Z7602	B	C	3B	R7108	A	C	2C	R7640	A	C	3B	R7674	B	C	2A	ZP7605	B	C	2A
Z7603	B	C	3B	R7109	A	C	3C	R7641	B	C	3B	R7675	B	C	2A	ZP7606	B	C	2A
Z7604	B	C	3B	R7110	A	C	3C	R7642	B	C	3B	R7677	B	C	2A	ZP7607	B	C	2A
Z7605	B	C	3B	R7111	A	C	3C	R7643	A	C	3B	R7678	B	C	2A	ZP7608	B	C	2A
Z7606	B	C	3B	R7112	A	C	3C	R7645	B	C	3B	R7679	B	C	2A	ZP7609	B	C	3A
Z7607	B	C	2B	R7113	B	C	3B	R7646	B	C	3B	R7681	B	C	2A	ZP7610	B	C	3A
Z7608	B	C	2B	R7114	B	C	3B	R7649	B	C	2B	R7685	A	C	2A	ZP7611	B	C	3A
Z7609	B	C	2B	R7115	B	C	3B	R7650	B	C	2B	R7687	B	C	3B	ZP7612	B	C	3A
Z7610	B	C	2B	R7116	B	C	2B	R7651	B	C	2B	R7688	B	C	3B	ZP7613	B	C	3A
Z7615	B	C	2A	R7117	B	C	2B	R7652	B	C	2B	R7689	B	C	3B	ZP7614	B	C	2A
Z7616	B	C	2A	R7118	B	C	2B	R7653	B	C	2B	R7690	B	C	3C	ZP7615	B	C	3A
Z7617	B	C	2A	R7119	B	C	2B	R7654	B	C	2B	R7691	B	C	1C	ZP7616	B	C	2A
Z7618	B	C	2A	R7121	A	C	3C	R7656	B	C	2B	VR7101	A	C	2C	ZP7617	B	C	3A
Z7619	B	C	3B	R7604	B	C	2B	R7657	B	C	2B	VR7102	A	C	3B	ZP7620	B	C	3C
RESISTOR				R7610	A	C	3B	R7659	B	C	2B	VR7103	A	C	2B	ZP7621	B	C	3C
				R7611	B	C	3A	R7660	B	C	2B	OTHER				ZP7630	B	C	3B
Z1	B	C	3A	R7612	B	C	3A	R7661	B	C	2C					ZP7631	B	C	3B
Z2	B	C	3A	R7613	B	C	3A	R7662	B	C	2B	SW1	B	C	3A	ZP7632	B	C	3B
Z3	A	C	3A	R7616	B	C	3A	R7663	B	C	2B	SW2	A	C	1C	ZP7633	B	C	3C
Z4	B	C	2C	R7631	A	C	3A	R7664	B	C	2C	SW3	A	C	2C	ZP7640	B	C	2B
Z5	B	C	2C	R7632	A	C	3B	R7665	B	C	2B	SW4	A	C	3C	ZP7641	B	C	2B
Z6	B	C	3C	R7633	A	C	3B	R7666	B	C	2B	SW5	A	C	3C	ZP7642	B	C	2B
Z7	B	C	3C	R7634	A	C	3B	R7667	B	C	2B	SW6	B	C	3A	ZP7643	B	C	2B
Z7103	B	C	2C	R7635	A	C	3B	R7668	B	C	2B	SW7601	B	C	1C	ZP7644	B	C	2B
Z7104	B	C	3C	R7636	A	C	3B	R7669	B	C	2B	ZP7601	B	C	2A	ZP7650	B	C	3A
Z7105	B	C	3B	R7637	B	C	3B	R7670	B	C	2B	ZP7602	B	C	3A	ZP7651	B	C	3A
Z7106	B	C	2B	R7638	B	C	3B	R7672	B	C	2A	ZP7603	B	C	3C	ZP7652	B	C	2A

4.24 LCD BL CIRCUIT BOARD

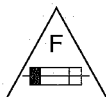
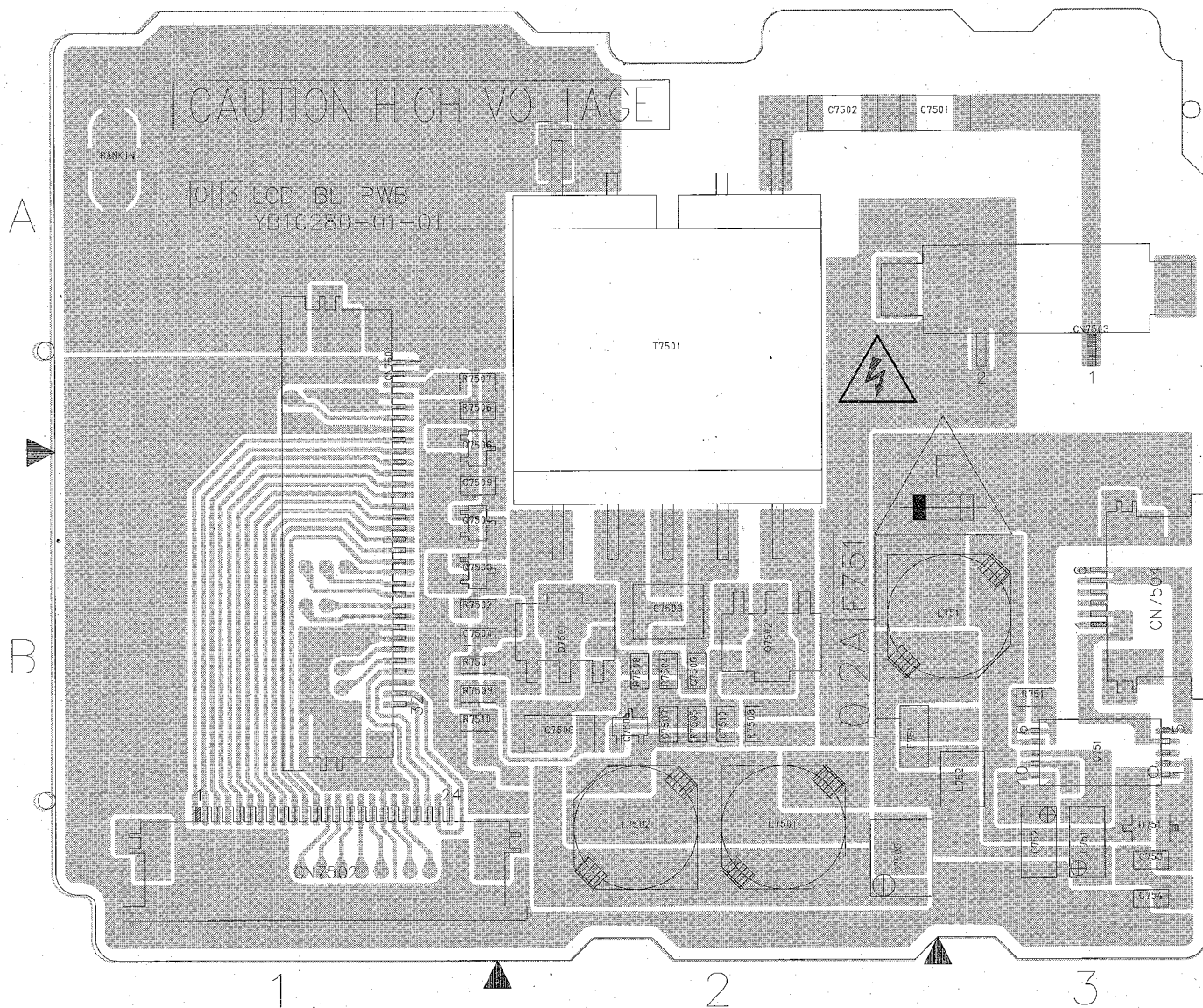
FOIL SIDE (B)



COMPONENT PARTS LOCATION GUIDE (L

REF.No.	LOCATION			REF.No.	LOCATION			REF.No.	LOC
CAPACITOR				C7509	A	C	1B	IC	
C751	A	C	3B	C7510	A	C	2B	IC751	A
C752	A	C	3B	CONNECTOR				CO	
C753	A	C	3B	CN7501	A	C	1A	L751	A
C754	A	C	3B	CN7502	A	C	1B	L752	A
C7501	A	C	3A	CN7503	A	C	3A	L7501	A
C7502	A	C	2A	CN7504	A	C	3B	L7502	A
C7503	A	C	2B	DIODE				TRANSISTOR	
C7504	A	C	1B	D751	A	C	3B	Q7501	A
C7505	A	C	2B					Q7502	A
C7506	A	C	2B					Q7503	A
C7507	A	C	2B						
C7508	A	C	2B						

COMPONENT SIDE (A)



CAUTION:
FOR CONTINUED PROTECTION AGAINST
FIRE HAZARD, REPLACE ONLY WITH SAME
TYPE AND RATED FUSE.

ATTENTION:
POUR UNE PROTECTION PERMANENTE
CONTRE LES RISQUE D'INCENDIE,
REPLACER LE FUSIBLE PAR UN AUTRE
DE MEME TYPE ET DE MEME TENSION.

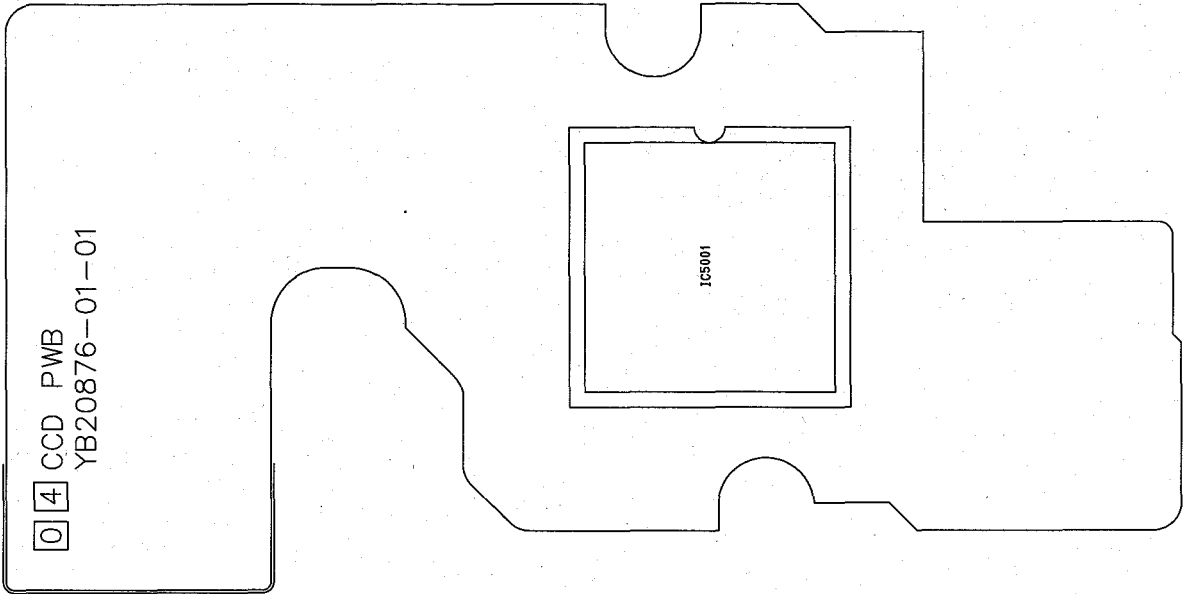
UIDE (LCD BL)

F.No.	LOCATION			REF.No.	LOCATION			REF.No.	LOCATION		
IC				Q7504	A	C	1B	R7508	A	C	2B
751	A	C	3B	Q7505	A	C	2B	R7509	A	C	1B
				Q7506	A	C	1A	R7510	A	C	1B
COIL				RESISTOR				OTHER			
51	A	C	3B	R7511	A	C	3B	T7501	A	C	2A
52	A	C	3B	R7501	A	C	1B	F751			
501	A	C	2B	R7502	A	C	1B				
502	A	C	2B	R7503	A	C	2B				
				R7504	A	C	2B				
TRANSISTOR				R7505	A	C	2B				
'501	A	C	2B	R7506	A	C	1A				
'502	A	C	2B	R7507	A	C	1A				
'503	A	C	1B								

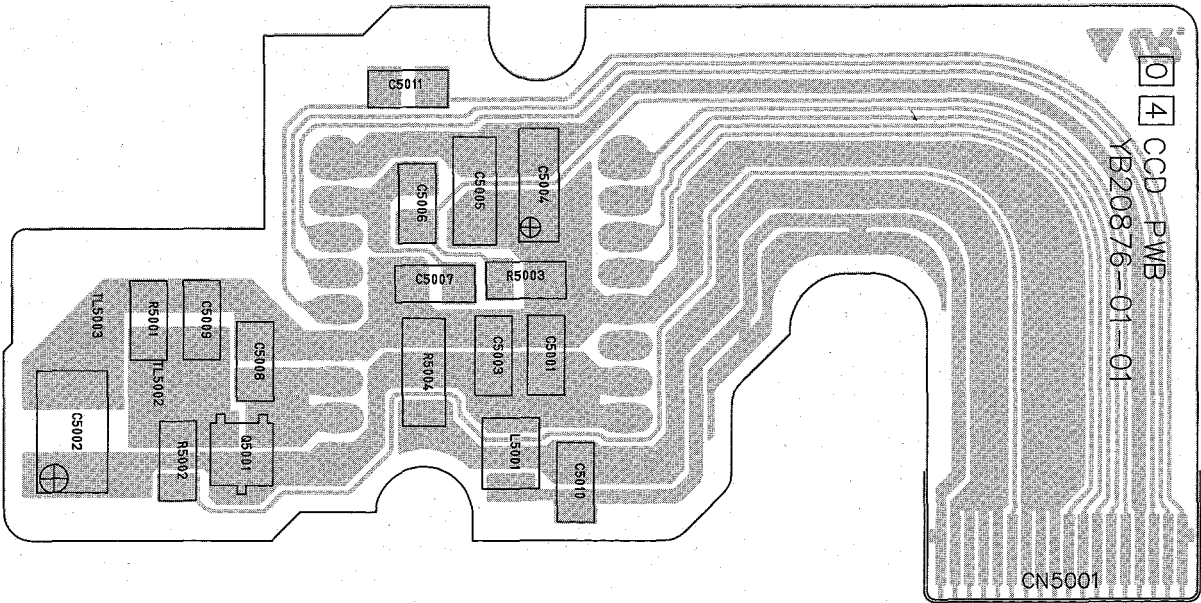
4.25 CCD AND JUNCTION CIRCUIT BOARDS

— CCD —

FOIL SIDE (B)

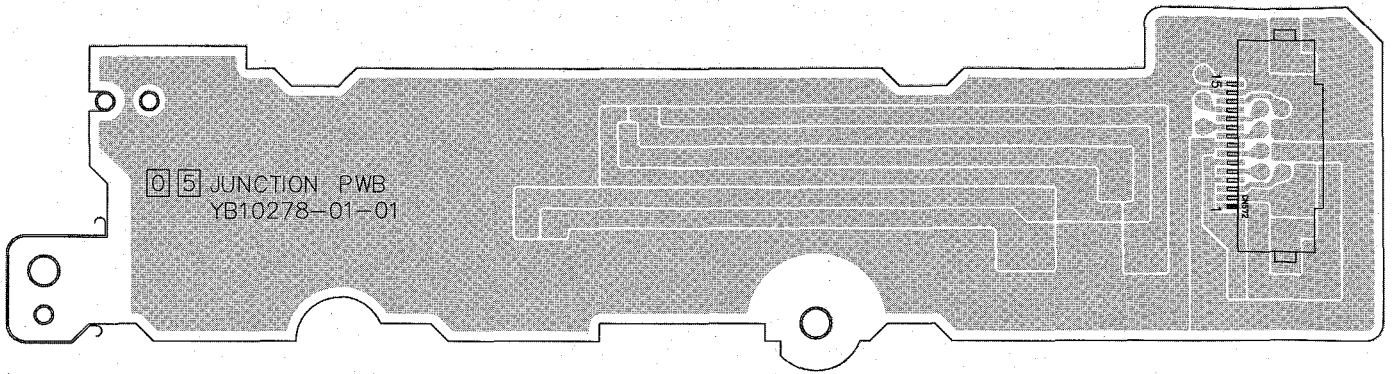


COMPONENT SIDE (A)

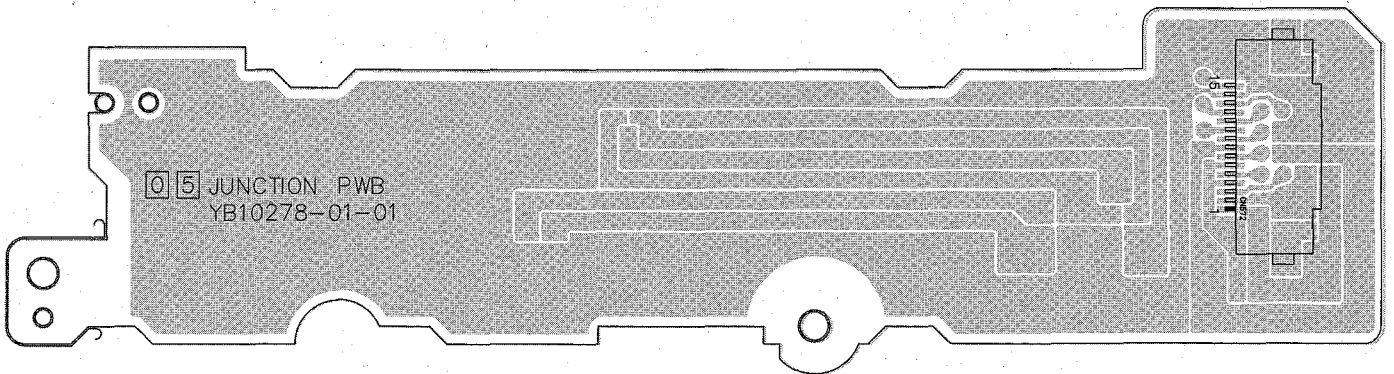


— JUNCTION —

FOIL SIDE (B)



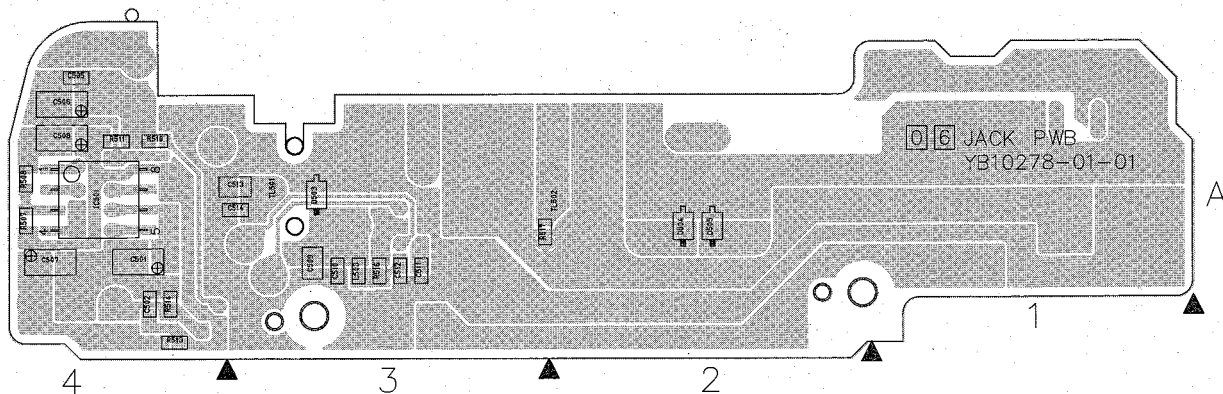
COMPONENT SIDE (A)



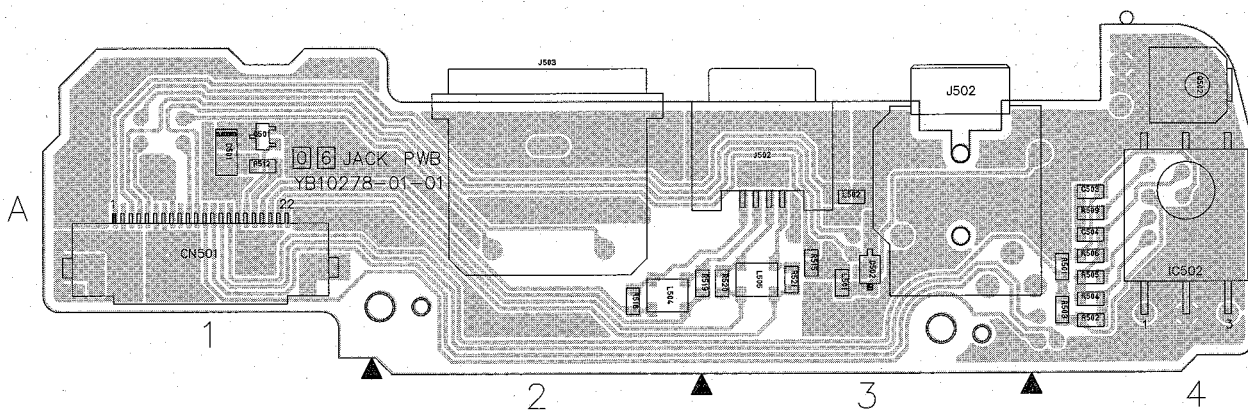
4.26 JACK, REAR AND B/W VF CIRCUIT BOARDS

— JACK —

FOIL SIDE (B)



COMPONENT SIDE (A)

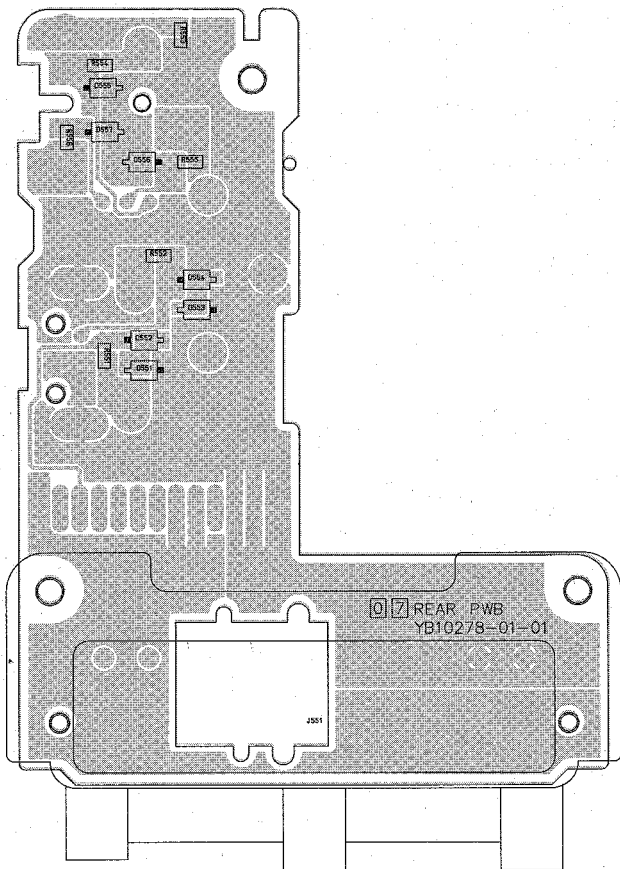


COMPONENT PARTS LOCATION GUIDE (JACK)

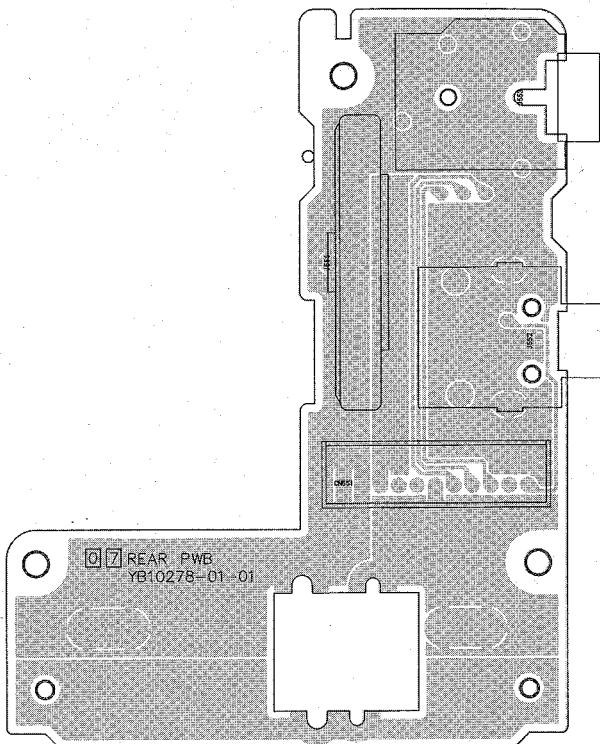
REF.No.	LOCATION			REF.No.	LOCATION			REF.No.	LOCATION			REF.No.	LOCATION						
CAPACITOR				CONNECTOR				COIL				R504	A	C	4A	R519	A	C	3A
C501	B	C	4A	CN501	A	C	1A	L501	A	C	3A								
C502	B	C	4A	DIODE				L502	A	C	3A	R506	A	C	4A	R521	A	C	3A
C503	A	C	4A					L503	B	C	3A	R507	B	C	4A				
C504	A	C	4A	D501	A	C	1A	L504	A	C	2A	R508	B	C	4A	OTHER			
C505	B	C	4A	D502	A	C	3A	L505	A	C	3A	R509	A	C	4A				
C506	B	C	4A	D503	B	C	3A	TRANSISTOR				R510	B	C	4A	J501	A	D	3A
C507	B	C	4A	D504	B	C	2A					R511	B	C	4A	J502	A	C	3A
C508	B	C	4A	D505	B	C	2A	Q501	A	C	1A	R512	A	C	1A	J503	A	D	2A
C509	B	C	3A	IC				Q502	A	D	4A	R513	B	C	4A	TL501	B	C	3A
C510	B	C	3A					R514	B	C	4A	TL502	B	C	2A				
C511	B	C	3A	IC501	B	C	4A	RESISTOR				R515	A	C	3A				
C512	B	C	3A	IC502	A	D	4A					R516	B	C	3A				
C513	B	C	3A					R501	A	C	4A	R517	B	C	3A				
C514	B	C	3A					R502	A	C	4A	R518	A	C	2A				
										R503	A	C	4A						

— REAR —

FOIL SIDE (B)

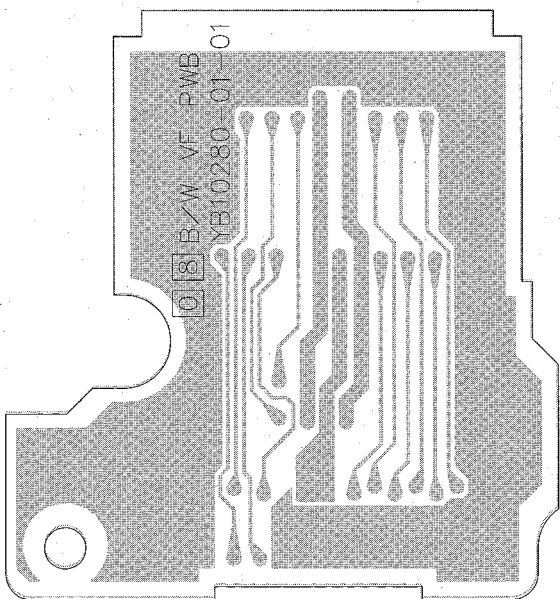


COMPONENT SIDE (A)

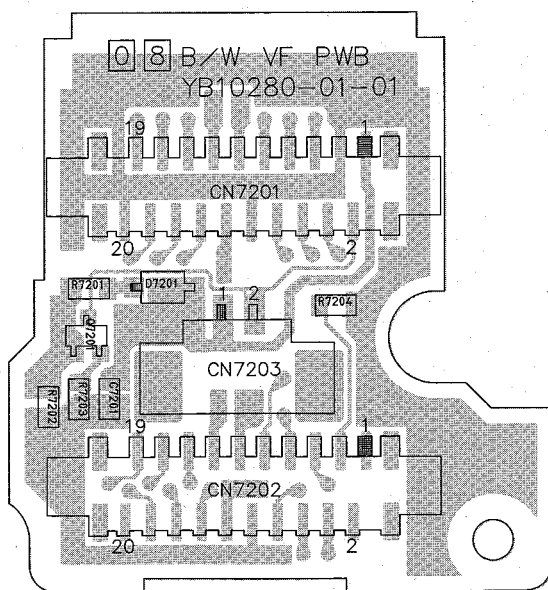


— B/W VF —

FOIL SIDE (B)



COMPONENT SIDE (A)



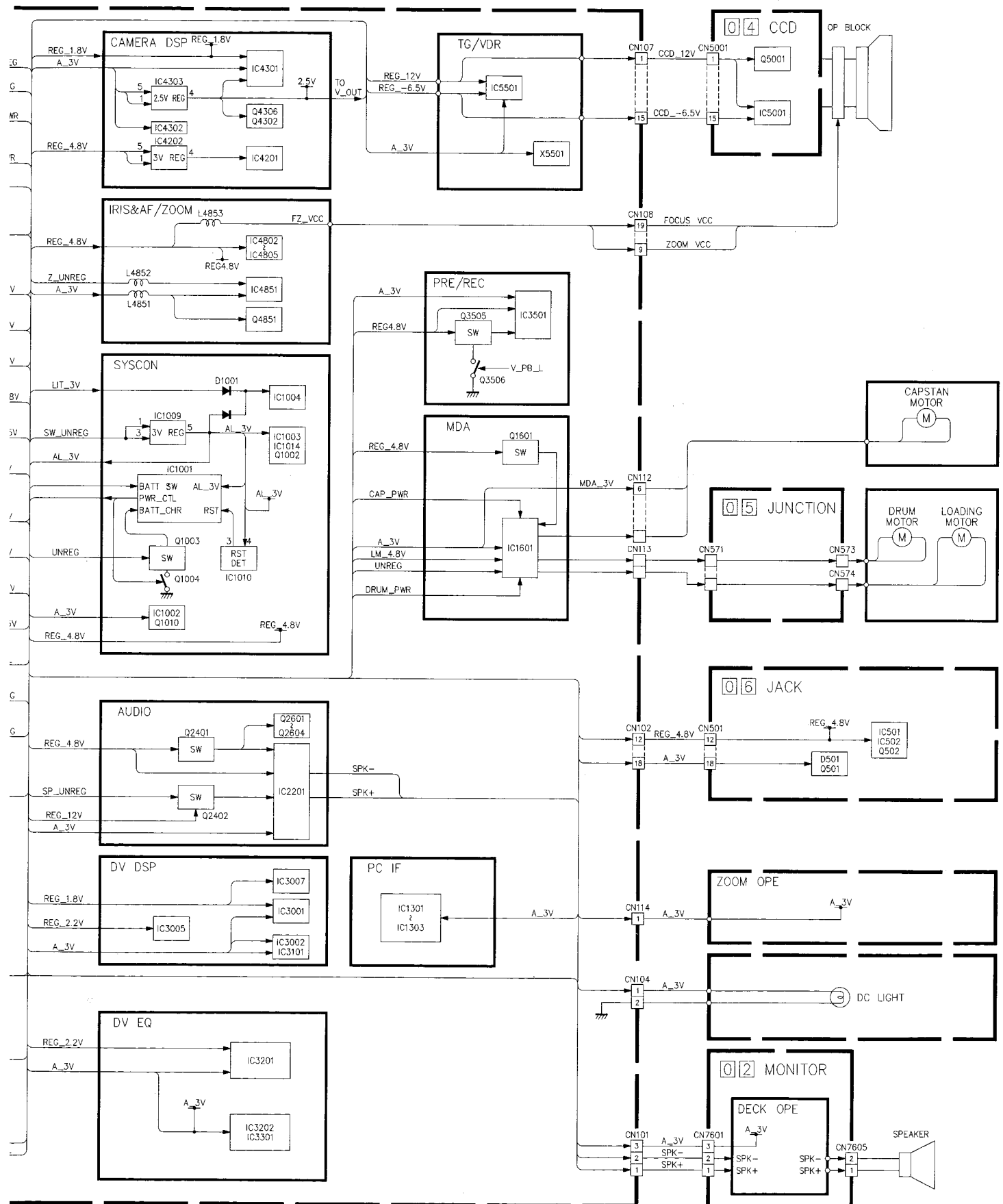
1



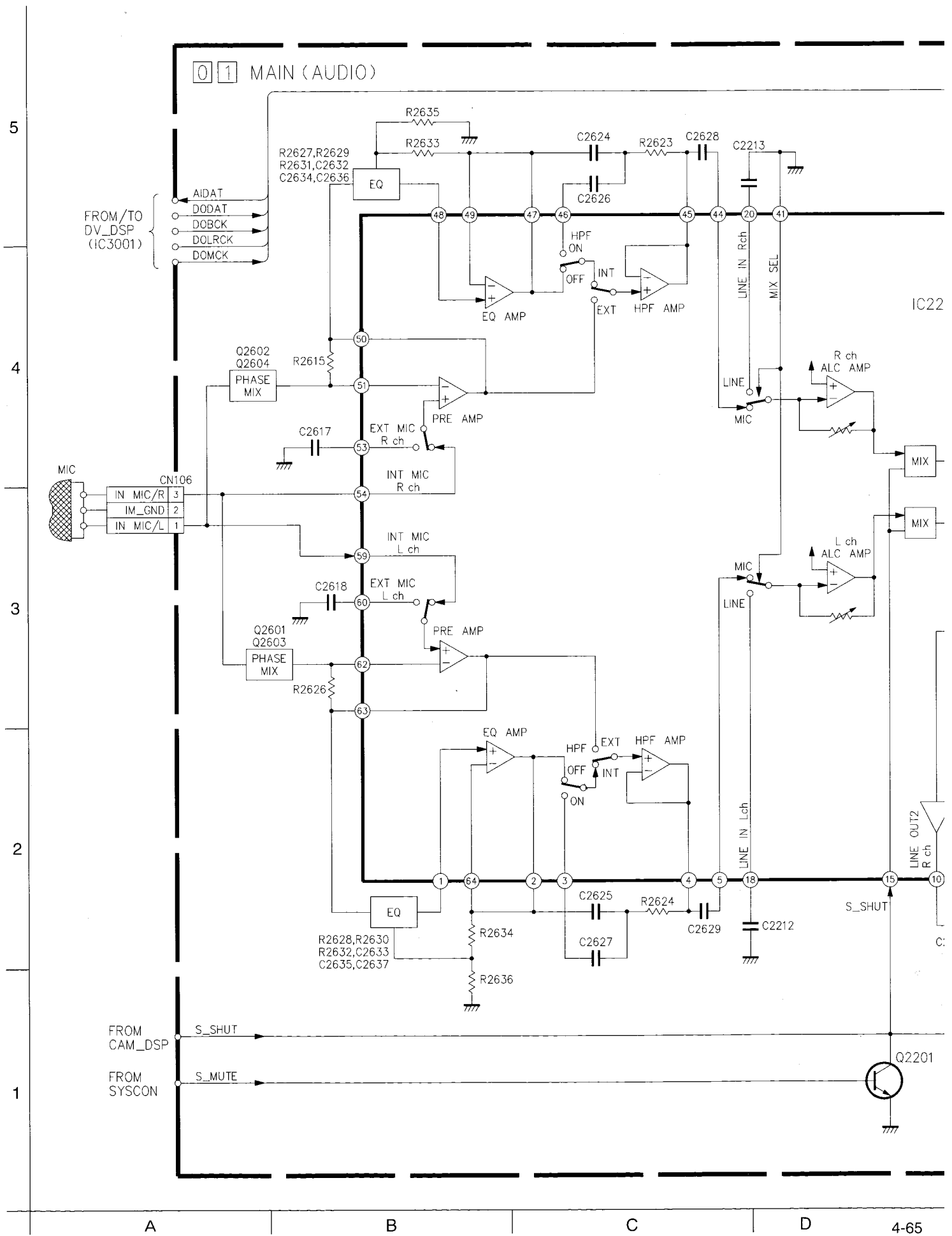


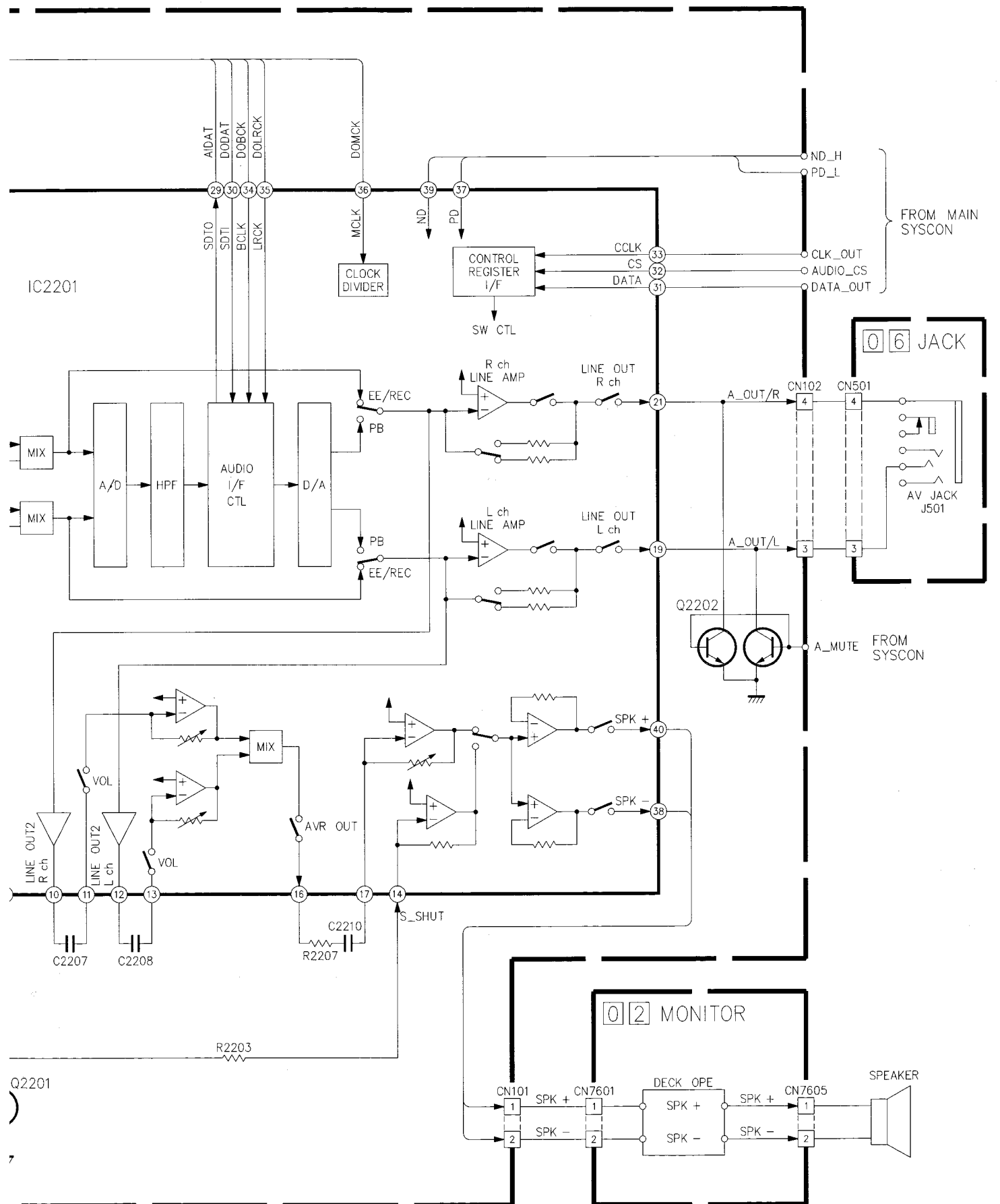
1



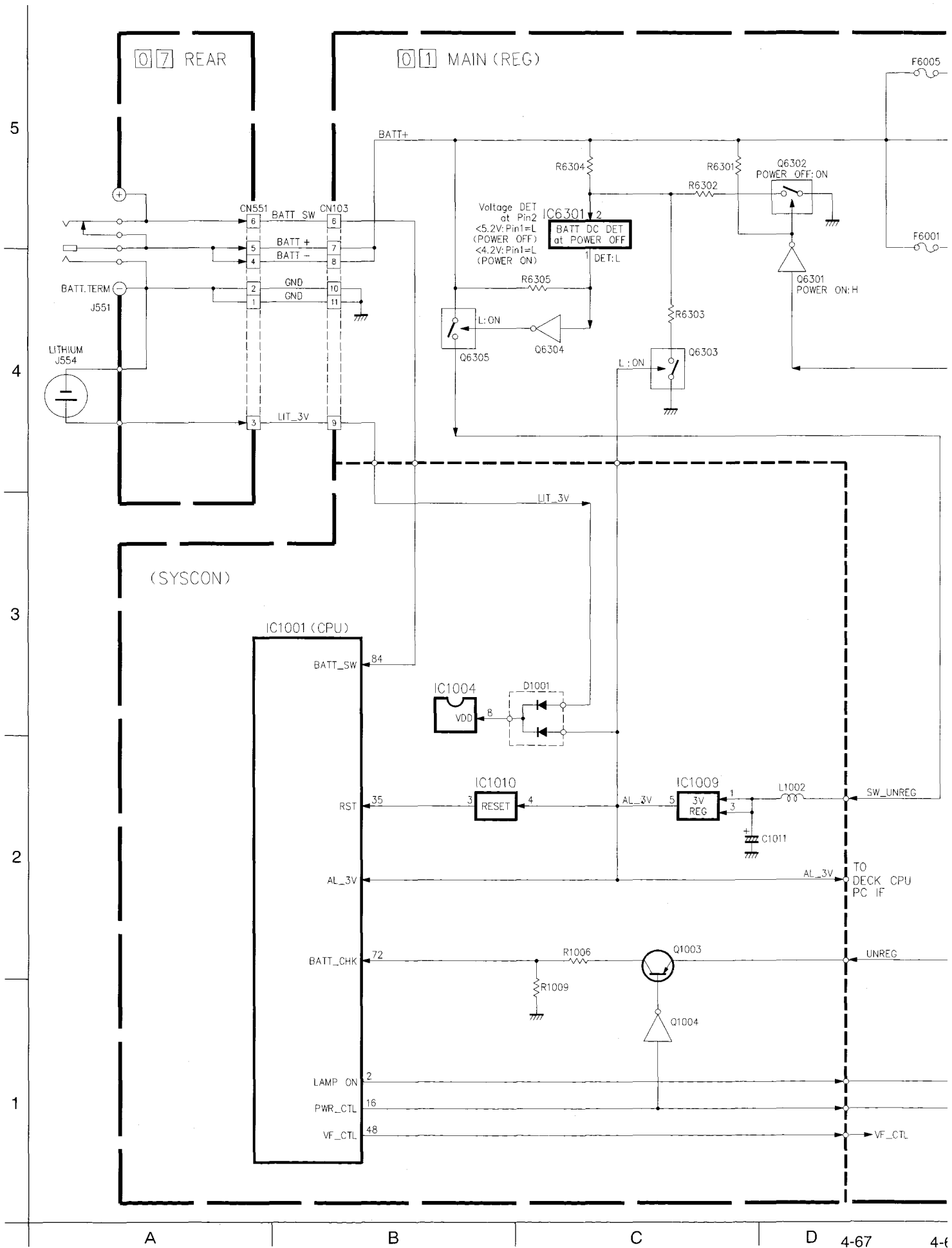


4.29 AUDIO SYSTEM BLOCK DIAGRAM





4.30 REGULATOR SYSTEM BLOCK DIAGRAM



Note: Parts whose data cannot be obtained (for example, CSP IC, etc.) are omitted from the following chart in some cases.

4.31 VOLTAGE CHARTS

<SYSCON>

MODE PIN NO.	REC	PLAY
IC1001		
1	0	0
2	0	0
3	0	0
4	0	3
5	2.8	2.8
6	0	0
7	3	3
8	0	0
9	0	0
10	1	1
11	0	0
12	1.9	0
13	0	0
14	1.9	1.8
15	1.1	0
16	3	3
17	1.1	1.1
18	0	0
19	0	0
20	3	3
21	3	3
22	3	3
23	0	0
24	0	0
25	3	3
26	1.9	1.9
27	1.4	1.4
28	0	0
29	3	3
30	0	1.5
31	1.5	1.4
32	0	0
33	1.5	1.5
34	3	3
35	3	3
36	2.9	2.9
37	0	0
38	3	3
39	2.9	2.9
40	0	0
41	0	0
42	0	0
43	3	3
44	3	2.9
45	3	3
46	3	3
47	0	0
48	0	0
49	3	3
50	3	3
51	1.5	0
52	0	0
53	3	3
54	3	3
55	2.9	2.8
56	1.6	0
57	3	3
58	3	3
59	0	0
60	3	0
61	3	3
62	3	3
63	3	0
64	3	3
65	0	0
66	0	0
67	0	0
68	3	3
69	0	0
70	0	0
71	0	0
72	2.4	2.4
73	3	3
74	1.5	1.5
75	1.5	1.5
76	2.8	2.8
77	1.2	2.3
78	0	0
79	0	0

MODE PIN NO.	REC	PLAY
80	0	0
81	3	3
82	1.2	1.3
83	0	0
84	2.1	2.1
85	3	3
86	3	3
87	3	3
88	0	0
89	3	0
90	0	0
91	0	3
92	0	0
93	0	0
94	3	3
95	3	3
96	3	3
97	0	0
98	3	3
99	0	0
100	3	3
101	3	3
102	0	3
103	0	3
104	3	3
105	3	0
106	3	3
107	0	0
108	3	3
109	0	0
110	3	3
111	3	3
112	0	0
113	0	0
114	3	3
115	0	0
116	0	0
117	0	3
118	0	0
119	3	3
120	2.2	3
121	3	3
122	0	3
123	3	0
124	0	0
125	0	0
126	0	0
127	0	3
128	0	0
IC1002		
1	1.7	1.7
2	0	0
3	1.8	1.9
4	3	3
5	3	3
6	3	3
7	1.4	1.4
8	1.5	1.5
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	0	0
17	0	0
18	0	0
19	2.9	0
20	2.8	2.8
IC1003		
1	3	3
2	1.8	1.8
3	3	3
4	0	0
5	3	3
6	3	3
7	3	3
8	3	3

MODE PIN NO.	REC	PLAY
IC1004		
1	0	0
2	3	3
3	1.8	1.8
4	0	0
5	3	2.9
6	0.5	0.5
7	0.5	0.4
8	3	3
IC1009		
1	6.6	6.6
2	0	0
3	6.6	6.6
4	0	0
5	3	0
IC1010		
1	0	0
2	0	0
3	3	3
4	3	3
IC1014		
1	3	0
2	3	3
3	3	3
4	3	3
5	3	3
6	3	3
7	0	0
8	2.9	3
9	3	3
10	3	0
11	3	3
12	3	3
13	3	3
14	3	3
Q1002		
E	3	3
C	0	0
B	3	3
Q1003		
E	6.6	6.6
C	6.6	6.6
B	0	0
Q1004		
E	0	0
C	0	0
B	3	3
Q1008		
E	0	0
C	0	0
B	0	0
Q1009		
E	0	0
C	0	3
B	3	0
Q1010		
E	3	0
C	0	0
B	0	3

<PC IF>

MODE PIN NO.	REC	PLAY
IC1301		
1	0	3
2	3	3
3	3	3
4	0	0
5	0	0
6	0	0
7	0	0
8	3	3
9	3	3
10	0	3
11	3	3
12	3	3
13	3	3
14	3	3
IC1302		
1	0	0
2	3	3
3	3	3
4	3	3
5	3	3
6	0	0
7	0	0
8	0	0
9	3	3
10	0	0
11	3	3
12	0	0
13	0	0
14	0	0
15	3	3
16	3	3
IC1303		
1	0	0
2	3	3
3	0	0
4	0	0
5	0	0
6	0	3
7	0	0
8	0	0
9	0	0
10	3	3
11	0	0
12	0	0
13	3	3
14	3	3
Q1301		
E	0	0
C	0.4	0.6
B	0	0

<DECK CPU>

MODE PIN NO.	REC	PLAY
IC1402		
1	-	-
2	3	3
3	-	-
4	0	0
5	-	-
6	0	0
7	-	-
8	3	3
IC1403		
1	3	3
2	3	3
3	3	3
4	0	0
5	3	3
6	3	3
7	3	3
8	3	3
IC1405		
1	3	3
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	3	3
8	3	3
Q1401		
E	3	3
C	3	3
B	3	3
Q1402		
1	0	0
2	3	3
3	0	3
4	2.8	0
5	0	0
Q1403		
1	0	0
2	0	0
3	3	3
4	0	-0.4
5	3	3

<MDA>

MODE PIN NO.	REC	PLAY
IC1601		
1	0	0
2	0.8	0.9
3	0.8	0.8
4	0	0
5	0.8	0.8
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	4.8	4.8
15	0	0
16	0	0.4
17	0	0
18	0.4	0
19	0	0
20	0.4	0
21	0	0
22	0	0
23	0.9	0.9
24	6.6	6.7
25	0	1.5
26	1.5	1.5
27	1.5	1.4

<AUDIO>

MODE PIN NO.	REC	PLAY
28	1.5	1.5
29	1.4	0
30	1.5	1.5
31	1.5	1.4
32	0	1.4
33	1.5	1.5
34	1.5	0
35	3	3
36	3	3
37	0	0
38	0.6	0.7
39	0.6	0.6
40	1.2	1.2
41	1.6	1.6
42	0	0.4
43	3	0
44	0	0
45	0	0
46	0	0
47	3	3
48	0	0
49	0	3
50	1.9	1.9
51	0	0
52	1.5	1.5
53	1.1	1.1
54	0	0.4
55	0.6	0.7
56	0	0.7
57	1	1
58	0.6	0.6
59	0	0
60	1	1
61	2.6	2.7
62	1.2	1.2
63	1.5	1.5
64	1.5	1.5
65	1.5	1.5
66	1.5	1.5
67	1.5	1.5
68	0.5	0.5
69	0	0
70	0.8	0.9
71	0	0.9
72	0.9	0.9
73	0	0.9
74	1.1	1.1
75	0	0
76	0	0
77	6.7	6.7
78	1.8	1.8
79	0	0
80	0	0
Q1601		
1	0	0
2	0	0
3	4.8	4.8
4	0	0
5	4.8	4.8

MODE PIN NO.	REC	PLAY
IC2201		
1	1.9	0
2	1.9	0
3	1.7	3.5
4	1.8	1.9
5	1.5	1.5
6	1.5	1.5
7	1.5	1.5
8	0	0
9	3	3
10	0.6	1.5
11	0.6	1.5
12	0.6	1.5
13	0.6	1.5
14	1.5	1.5
15	1.5	1.5
16	0	1.5
17	1.3	1.5
18	1.5	1.4
19	1.6	0
20	1.4	1.5
21	1.4	1.2
22	2.4	2.4
23	4.8	4.8
24	0	0
25	0	0
26	0	0
27	3	3
28	0	0
29	1.5	0
30	1.5	1.5
31	3	3
32	3	3
33	3	3
34	1.5	1.5
35	1.5	1.5
36	1.5	1.4
37	3	3
38	0	2.6
39	0	0
40	1.5	2.6
41	3	0
42	0	0
43	5.9	5.1
44	1.5	1.5
45	1.8	0.7
46	1.8	3.5
47	1.8	0
48	1.8	0
49	1.9	0
50	1.9	0
51	1.9	0
52	2.5	0
53	1.8	0.5
54	1.8	2.2
55	3.7	4.1
56	1.8	2.1
57	0	0
58	3.7	4.2
59	1.8	2
60	1.8	0
61	1.8	3.5
62	1.8	0
63	1.8	0
64	1.8	0
Q2201		
E	0	0
C	0	0
B	0.6	0
Q2202		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0

MODE PIN NO.	REC	PLAY
Q2401		
E	3.7	4.2
C	4.8	4.8
B	4.4	4.8
Q2402		
E	5.9	5.1
C	6.7	6.7
B	6.4	6.3
Q2601		
E	2.4	4.2
C	1.3	0
B	1.9	3.6
Q2602		
E	2.4	4.2
C	1.3	0
B	1.9	3.6
Q2603		
E	1.9	3.6
C	3.7	4.2
B	2.4	4.2
Q2604		
E	1.8	3.6
C	3.7	4.2
B	2.4	4.1

<DV DSP>

MODE PIN NO.	REC	PLAY
IC3002		
1	3	3
2	1.3	1.4
3	1.3	1.4
4	1.3	0
5	1.3	1.2
6	3	3
7	1.3	1.2
8	1.3	1.3
9	1.6	1.6
10	0	1.7
11	0	0
12	-	-
13	-	-
14	-	-
15	0	0
16	0	0
17	2.1	2.2
18	1.2	1.2
19	0	0
20	0	0
21	1.6	0
22	1.5	1.6
23	1.5	1.5
24	1.4	1.4
25	3	3
26	0	0
27	1.3	1.4
28	1.5	1.5
29	1.4	0
30	0	1.4
31	1.4	1.4
32	1.4	1.3
33	2.1	2
34	2	2.4
35	0	2.4
36	0	0
37	-	-
38	-	-
39	-	-
40	0	0
41	1.3	1.3
42	1.2	0
43	1.2	0
44	1.2	1.2
45	0	0
46	1.2	0
47	1.2	0
48	0	0

<DV EQ>

MODE PIN NO.	REC	PLAY
49	1.5	1.5
50	0	0
IC3005		
1	1	1
2	1	1
3	0	0
4	1	0.9
5	2.1	2.1
IC3007		
1	0	1.8
2	1.7	0.8
3	0	0
4	0	0
5	1.8	1.9
IC3101		
1	0	3
2	3	3
3	0	0
4	2.9	3
5	3	3
6	2.9	3
7	3	0
8	0	0
9	0	1.4
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	0	0
17	0	0
18	0	0
19	2.9	3
20	3	2.9
21	3	3
22	3	3
23	0	0
24	3	3
25	2.9	3
26	0	0
27	2.9	2.9
28	0	0
29	0	0
30	0	0
31	3	3
32	0	0
33	0	0
34	0	0
35	0	0
36	0	0
37	0	0
38	0	0
39	0	0
40	0	0
41	0	0
42	0	0
43	0	0
44	0	1.8
45	0	1.8
46	0	1.8
47	0	1.8
48	0	1.8
49	0	0
50	0	0
51	2.9	3
52	0	0
53	0	0
54	0	3
55	3	3
56	0	0
57	0	3
58	3	3
59	0	0
60	0	0.6
61	0	0
62	0	0.6
63	0	0
64	0	0

MODE PIN NO.	REC	PLAY
IC3201		
1	0	0
2	0	0
3	0	1.3
4	0	1
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0.7
13	0	0
14	0	0
15	0	0
16	0	0
17	0	1.2
18	0	3
19	3	3
20	3	3
21	3	3
22	0	0
23	0	0
24	0	0
25	0	0
26	0	0
27	0	0
28	0	0
29	0	0
30	0	0
31	3	3
32	0	0
33	2.1	2.1
34	0	0
35	0	0
36	0	0
37	0	0
38	0	0
39	0	0
40	0	0
41	0	0
42	0	0
43	0	0
44	0	0
45	0	1
46	0	0
47	0	0
48	0	1.7
49	3	3
50	0	0
51	3	3
52	0	0
53	0	0
54	3	3
55	3	3
56	0	0
57	3	3
58	2.1	2.1
59	0	0
60	3	3
61	0	0
62	0	0
63	0	1.5
64	2.9	1.2
65	3	1.2
66	1.4	1.4
67	0	0
68	0	1.5
69	0	0
70	0	0
71	0	3
72	0	0
73	2.9	2.9
74	3	3
75	3	0
76	0.8	1.7
77	0.8	1.7
78	0	0

MODE PIN NO.	REC	PLAY
79	0	0
80	3	3
81	0	0
82	0	0
83	0	0
84	0	0
85	0	0
86	3	0
87	3	0
88	0	0
89	0	0
90	0	0
91	3	3
92	0	0
93	2.1	2.1
94	2.7	2.5
95	0	0
96	2.7	2.5
97	0	0
98	0	0
99	2.8	2.9
100	0	0
101	0	0
102	2.9	2.9
103	0	0
104	0	0
105	0	0
106	0	0
107	3	3
108	0	0
109	0	0
110	0	0
111	0	0
112	3	1.5
113	0	0
114	0	0
115	0	0
116	0	0
117	3	3
118	2.1	2.1
119	0	0
120	3	3
IC3202		
1	2.7	1.4
2	0	3
3	0	0
4	3	1.3
5	3	3
IC3301		
1	0	1.2
2	0	1.3
3	0	1.5
4	0	0.7
5	0	1.7
6	1	1
7	0	1.7
8	0	1
9	0	0
10	0	0
11	0	0
12	0	0
13	3	3
14	3	3
15	2.2	1.9
16	3	3
17	0.4	1.2
18	0	1.5
19	0	0
20	0	0
21	0.8	0
22	0.8	1.7
23	3	3
24	3	3
25	2.9	0
26	3	3
27	0	0
28	0	0
29	0	0
30	2.2	0

MODE PIN NO.	REC	PLAY
31	0	0.5
32	2.2	2.3
33	0.6	0.5
34	1.9	1.9
35	1.7	1.5
36	1.7	1.5
37	2.2	1.5
38	0	1.5
39	0	0
40	0	0
41	0	0
42	0	0
43	1.5	1.5
44	1.2	1.2
45	1.1	1.1
46	0	0.7
47	1.2	1.2
48	1.8	1.8
49	0	0
50	0	0
51	0	0
52	0	0
53	0	0
54	1.5	1.5
55	3	3
56	3	3
57	3	2.9
58	3	2.9
59	2.5	0
60	2.4	0
61	0	0
62	2.5	0
63	1.9	2
64	0	0.7

<PRE/REC>

MODE PIN NO.	REC	PLAY
IC3501		
1	3	0
2	2.5	0
3	3	3
4	0	0
5	0	0
6	0	3
7	2.6	2.3
8	0	0.4
9	0	0
10	0.5	0
11	2.6	0.6
12	0.4	0
13	2.6	2.6
14	3	3
15	0.4	0.6
16	0	0
17	0	0
18	0.4	0
19	4.8	4.8
20	1.1	1.3
21	0.6	0.7
22	2.5	2.1
23	0	0
24	0	1
25	3	2.9
26	3	0
27	0	0
28	0	1.8
29	-0.8	0.5
30	4.6	4.8
31	4.8	0.5
32	-0.5	1.8
33	0	0
34	0	0
35	3	3
36	1.9	1.1
37	0	0
38	2.5	2.1

MODE PIN NO.	REC	PLAY
39	0.7	0.8
40	1.3	1.3
41	0	0
42	0	0
43	3	0
44	0	3
45	1.5	1.5
46	3	3
47	0	3
48	2.9	0
49	0	0
50	0	0
51	0	0
52	0	0
53	0	0
54	0	0
55	0.5	2.2
56	0	0
57	2.6	1.1
58	3	2.2
59	3	1.9
60	3	3
61	2.5	1.8
62	3	2.4
63	0	0
64	1.6	1
Q3501		
E	0	0
C	0	0
B	0.5	0.7
Q3502		
E	0	0
C	0	0
B	-1.3	0.7
Q3503		
E	0	0
C	0	0
B	-1.1	0.7
Q3504		
E	0	0
C	1.7	1
B	0.7	0.7
Q3505		
E	4.8	4.8
C	4.8	0.5
B	4.1	4.8
Q3506		
E	0	0
C	0	4.8
B	3	0

<V OUT>

MODE PIN NO.	REC	PLAY
IC3701		
1	2.2	2.2
2	2.4	2.4
3	4.8	4.8
4	0	1.8
5	0	0
6	4.8	4.8
Q3701		
1	0.6	0.6
2	1.2	1.2
3	2.8	2.8
4	0.5	0.6
5	1.2	1.2
6	0	0
Q3702		
E	2.2	2.2
C	4.7	4.7
B	2.7	2.8
Q3703		
E	3.2	3.2
C	0	0
B	2.6	2.6
Q3704		
1	-0.6	-0.6
2	0	0
3	4.8	4.8
4	0	0
5	0	0.6
6	0	4.8
Q3705		
1	0.6	0.6
2	0	0
3	-4.6	-4.6
4	0	0
5	-0.6	-0.6
6	-4.6	-4.6
Q3706		
1	0	0
2	0	0
3	4.8	4.8
4	0	0
5	0.6	0.6
6	4.8	0
Q3707		
1	0.6	0.6
2	0	0
3	-4.6	-4.6
4	0	0
5	-0.6	-0.6
6	0	-4.6
Q3708		
E	0.6	0
C	0	3.7
B	1.2	1.2
Q3709		
E	3.1	3.1
C	4.7	4.8
B	3.7	3.7
Q3710		
E	0	0
C	4.4	4.3
B	0	0
Q3711		
E	4.8	4.8
C	0	0
B	4.4	4.4

<CAMERA DSP>

MODE PIN NO.	REC	PLAY
IC4201		
1	0	0
2	1.5	3
3	1.5	3
4	1.5	0
5	1.4	0
6	1.5	0
7	1.6	3
8	1.4	0
9	1.7	0
10	0.6	0
11	0	0
12	0	0
13	0	0
14	0	0
15	3	3
16	1.3	0
17	2.9	0
18	2.4	0
19	2.4	0
20	0	0
21	0	3
22	0	0
23	1.7	1.4
24	1.5	0
25	0	0
26	3	3
27	1.5	1.5
28	0	0
29	0	0
30	0	0
31	3	3
32	1.1	1.2
33	1.5	1
34	1.9	0.7
35	1.2	0
36	0	0
37	0	0
38	3	3
39	0	0
40	0	0
41	3	3
42	0	0
43	3	3
44	3	3
45	2.9	2.9
46	3	3
47	0	0
48	0	0
IC4202		
1	4.8	0
2	0	0
3	1.2	0
4	3	3
5	4.8	4.8
IC4302		
1	0	0
2	1.3	1.1
3	1.4	1.1
4	1.3	1.4
5	1.3	1.3
6	1.3	1.2
7	1.4	1.2
8	1.3	1.5
9	0	0
10	0	0
11	0	0
12	0	0
13	2.6	2.6
14	3	3
15	1.7	1.6
16	1.3	1.3
17	3	3
18	1.6	1.6
19	1.2	0
20	0	0
21	1.6	0
22	1.3	1.1
23	3	3

MODE PIN NO.	REC	PLAY
24	1.6	1.5
25	1.6	1.5
26	0	0
27	1.5	1.9
28	1.5	1.1
29	3	3
30	2.3	2.1
31	0	0.6
32	3	2.9
33	0	0
34	2.7	2.7
35	0	0
36	0	0
37	0	0
38	1.3	1.5
39	0.6	0.5
40	2	0
41	-	1
42	0	1.9
43	1.4	0
44	1.3	1.1
IC4303		
1	3	3
2	0	0
3	1.2	1.2
4	2.5	2.5
5	2.9	3
Q4302		
1	0.8	0
2	0.8	0.8
3	0	0
4	0	0
5	0	0
6	0	0
Q4306		
E	1.1	1.1
C	0	0
B	0	0.4

<IRIS & AF/ZOOM>

MODE PIN NO.	REC	PLAY
IC4802		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
IC4803		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
IC4804		
1	2.1	3.6
2	2.1	2.2
3	2.2	2.2
4	0	0
5	-	-
6	-	-
7	-	-
8	-	-
IC4805		
1	0	0
2	1.3	2.6
3	1.3	0
4	0	0
5	2	1.9
6	2	1.9
7	2	1.9
8	4.8	0

MODE PIN NO.	REC	PLAY
IC4851		
1	0	0
2	0.5	0.5
3	0	0
4	0	0
5	0	0.4
6	0	0
7	0	0
8	3	3
9	6.6	6.6
10	0.4	1.2
11	0	0
12	0.4	1.3
13	6.6	6.6
14	0.4	1.3
15	0	0
16	0.4	1.3
17	0	0
18	0	0
19	0	0
20	0	0
21	0	0
22	0	0
23	6.6	6.6
24	0	0
25	0	0
26	0	0
27	6.6	6.6
28	0	0
29	0	0
30	-	0
31	3	3
32	0	0
33	0	0
34	3	3
35	3	3
36	1.5	1.5
37	1.5	1.4
38	3	3
Q4803		
E	0.4	0.4
C	1.8	1.8
B	1	1
Q4851		
E	0	0
C	3.5	3.5
B	0	0

<TG/VDR>

MODE PIN NO.	REC	PLAY
IC5501		
1	1.2	1.2
2	2.4	0
3	2.9	0
4	3	3
5	0	0
6	3	3
7	0	0
8	0.6	0
9	0	0
10	2.9	3
11	1.4	0
12	2.9	2.9
13	0	0
14	1.2	0
15	0	0
16	2.9	3
17	2.4	0
18	2.4	0
19	2.4	0
20	0	0
21	0	0
22	2.9	3
23	0	0
24	3	3
25	3	0

MODE PIN NO.	REC	PLAY
26	0	3
27	0	0
28	1.2	1.8
29	0	0
30	1.3	1.6
31	0	0
32	0	0
33	3	3
34	1.5	0
35	1.3	0
36	2.9	3
37	2.9	0
38	3	3
39	0	0
40	0	0
41	-6.2	0
42	0	12.1
43	12.1	12.2
44	-6.2	12.1
45	-6.3	12.1
46	-6.6	-6.7
47	0	0
48	2.9	0

<REG>

MODE PIN NO.	REC	PLAY
IC6001		
1	2.2	2.2
2	1.2	1.2
3	2.2	2.2
4	0	0
5	6.6	6.7
6	0	1
7	1.3	1.3
8	2.2	0
9	0	0
10	0	0
11	0.7	0.7
12	1	1
13	1	1
14	0.7	0
15	0	0
16	0	0
17	0	0.6
18	1	1
19	1.2	1.2
20	0.9	1
21	1	1
22	1	0.9
23	1	1
24	1	1
25	0.9	1
26	0.9	0
27	0	0
28	1	1
29	0	0
30	2.4	2.4
31	0.7	0.8
32	0.8	0.8
33	6.6	6.7
34	6.7	6.7
35	2.9	3
36	3	3
37	0	0
38	4.7	4.7
39	3.4	3.4
40	2.8	2.8
41	0	0
42	1.6	1.7
43	1	1.1
44	5.6	5.7
45	4.4	4.4
46	2.7	2.7
47	0	0
48	2.2	2.2

MODE PIN NO.	REC	PLAY
IC6301		
1	6.6	6.6
2	6.4	6.4
3	0	0
4	0	0
Q6111		
G	3.4	3.4
D	3	3.1
S	6.6	6.6
Q6121		
G	1.6	1.6
D	4.9	4.9
S	6.6	6.6
Q6123		
E	4.8	4.8
C	0	0
B	4.8	4.8
Q6124		
E	0	0
C	4.8	4.8
B	0	0
Q6131		
G	4.7	4.7
D	1.8	1.8
S	6.6	6.6
Q6132		
E	0	0
C	0	0
B	3	3
Q6141		
G	5.6	5.7
D	0.9	1
S	6.6	6.7
Q6151		
G	4.4	4.4
D	0	2.1
S	0.6	6.6
Q6161		
G	2.7	2.7
D	0	0
S	6.6	6.6
Q6162		
1	4.3	4.3
2	4.8	4.8
3	14.8	14.8
4	4.3	4.3
5	4.8	4.8
6	15.4	15.4
Q6163		
E	15.4	15.4
C	12.1	12.1
B	14.8	14.8
Q6165		
1	-6.1	-6.2
2	6.6	-6.7
3	-13	0
4	-6.1	-6.2
5	-6.6	-6.7
6	-15.5	-15.5
Q6166		
E	-13.6	-15.5
C	0	-6.7
B	13	-15.2
Q6167		
E	-14.8	-14.8
C	-15.5	-15.5
B	-15.5	-15.4
Q6168		
E	0	0
C	15.4	15.4
B	-0.8	-0.8
Q6201		
E	6.7	6.7
C	6.6	0
B	6	6.7
Q6202		
E	5.3	0
C	6.7	6.7
B	5.6	0

MODE PIN NO.	REC	PLAY
Q6203		
E	0	0
C	0	6.6
B	0.6	0
Q6301		
E	0	0
C	0	0
B	3	3
Q6302		
G	0	0
D	6.3	6.4
S	0	0
Q6303		
G	3	3
D	0	0
S	3.8	3.8
Q6304		
G	6.6	6.6
D	0	0
S	0	0
Q6305		
G	0	0
D	6.6	6.7
S	6.6	6.7

<LCD BL>

MODE PIN NO.	REC	PLAY
IC751		
1	4.7	4.7
2	113.9	0
3	0	0
4	24	2.7
5	23.9	2.7
6	1.6	0
7	1.6	0
8	0	0
9	3	0
10	3	3
Q7501		
E	0	0
C	4.6	4.6
B	0	0
Q7502		
E	0	0
C	4.6	4.6
B	0	0
Q7503		
E	4.7	4.7
C	4.6	4.6
B	0	0
Q7504		
E	0	0
C	0	0
B	0.6	0.7
Q7505		
E	0	0
C	0	0
B	0	0
Q7506		
E	0	0
C	0.7	0.6
B	0	0

<JACK>

MODE PIN NO.	REC	PLAY
IC501		
1	1.9	1.9
2	1.9	1.9
3	0	2
4	0	0
5	1.9	0
6	0	0
7	1.3	0
8	0	4.8
IC502		
1	2.9	2.9
2	0	0
3	4.7	4.7
Q501		
E	0	0
C	0	0
B	2.7	0
Q502		
E	0	0
C	4.3	4.3
B	-	-

<B/W VF>

MODE PIN NO.	EE
IC7101	
1	4.8
2	0
3	0
4	0
5	1
6	6.3
7	2.4
8	0.6
9	1.4
10	0
11	0
12	0
13	4.8
14	7.8
15	4.8
16	0
17	2.4
18	6
19	2
20	9.4
21	0
22	2.6
23	0
24	2.4
25	2.9
26	2.9
27	3.5
28	0
29	11.3
30	2.5
31	0
32	0.4
33	1.2
34	0
35	0
36	0.7
37	0.6
38	0
39	1.3
40	11.5
41	0
42	0
43	4.8
44	4.8
45	2.4
46	0.9
47	0
48	0

<MONITOR>

MODE PIN NO.	EE
IC7601	
1	2.4
2	0
3	2.8
4	2.7
5	3.4
6	4.8
7	2
8	3.3
9	3.4
10	0
11	6.1
12	6.2
13	12.1
14	6.2
15	6.2
16	6.3
17	6.2
18	6.3
19	0
20	0
21	0
22	0
23	2.9
24	2.7
25	0
26	0
27	0
28	0
29	0
30	0.9
31	0.9
32	0.8
33	3
34	0
35	0
36	2.6
37	0.4
38	0
39	0
40	0
41	0
42	0
43	1.5
44	1.7
45	2.5
46	0
47	0
48	2.5
49	0
50	3
51	0
52	3.5
53	0
54	3
55	3
56	2.7
57	0
58	0
59	0
60	2.5
61	2.7
62	2.7
63	0
64	0
IC7603	
1	3
2	0
3	3
4	0
5	3
6	3
7	3
8	3
IC7604	
1	6
2	6.2
3	6
4	6.2

MODE PIN NO.	EE
5	6.2
6	0
7	0
8	0
9	0
10	0
11	0
12	6.2
13	5.8
14	6.2
15	6.2
16	12.1
IC7605	
1	0
2	0
3	-4.7
4	0
5	0
6	4.7
7	0
8	12.1
IC7606	
1	0
2	0
3	0
4	3
5	3
IC7607	
1	1.5
2	3
3	0
4	1.4
5	3
Q7602	
E	0
C	0
B	3
Q7603	
E	4.8
C	4.7
B	0
Q7604	
E	4.8
C	2.4
B	4.8
Q7605	
E	4.7
C	2.4
B	4.7
Q7606	
E	4.8
C	2.4
B	4.7
Q7607	
E	-8.9
C	0
B	-8.4
Q7608	
E	-8.6
C	-14.4
B	-8.9
Q7609	
E	0.8
C	12.1
B	1.3
Q7610	
E	1.1
C	-12.9
B	0.8
Q7615	
E	3
C	-13
B	3
Q7616	
E	0
C	0
B	2.9

MODE PIN NO.	EE
Q7617	
E	4.7
C	4.7
B	0
Q7618	
E	0
C	0
B	2.9
Q7619	
1	5.5
2	6
3	0
4	6
5	5.5
6	12.1

<CCD>

MODE PIN NO.	EE
IC5001	
1	-6.2
2	-6.2
3	0
4	0
5	0
6	0
7	12.1
8	9.3
9	0
10	10.4
11	1.4
12	1.2
13	7.2
14	0
Q5001	
E	8.6
C	12.1
B	9.3

<B/W VFIF>

MODE PIN NO.	EE
Q7201	
E	0.8
C	1.7
B	1.5

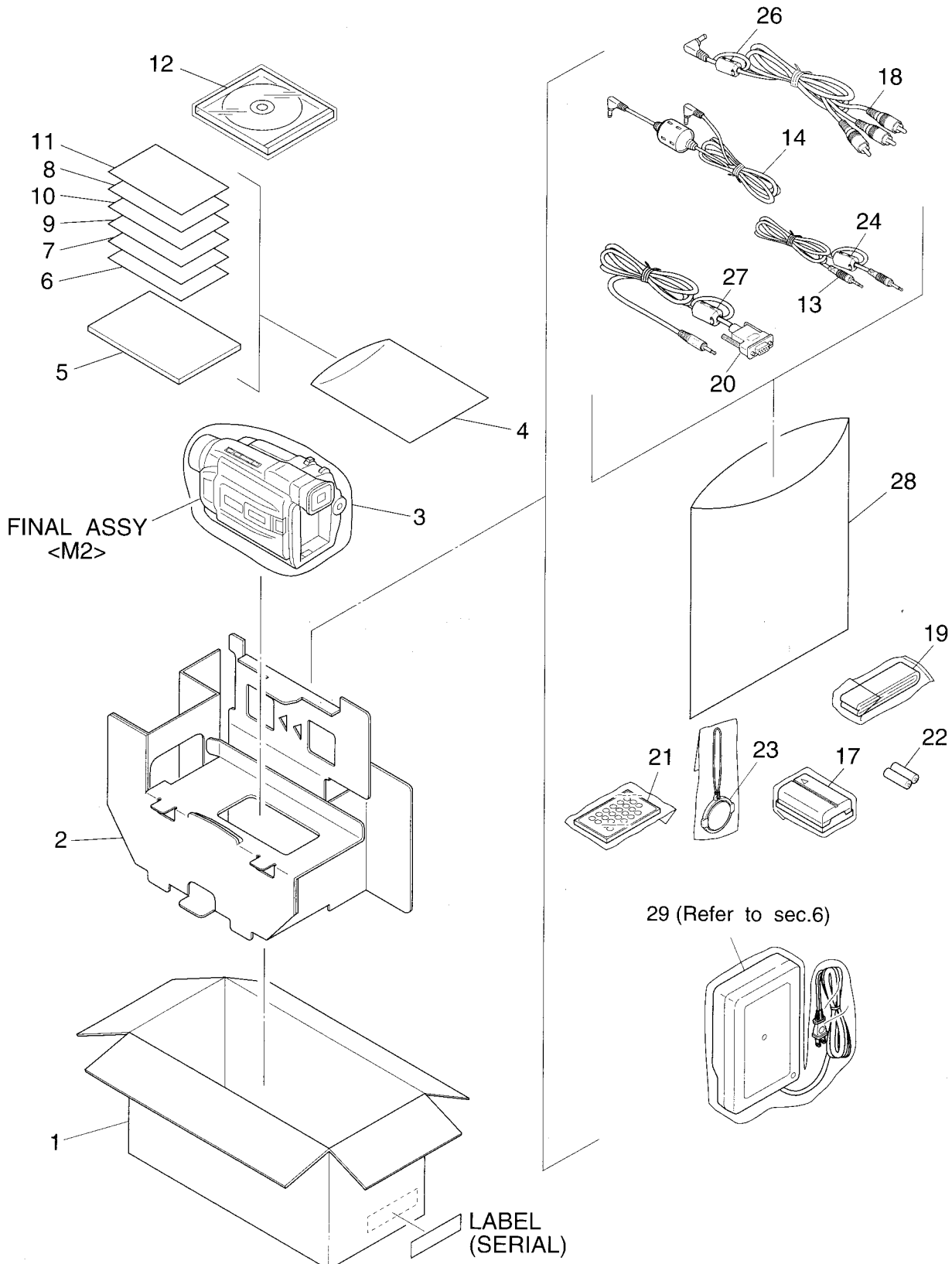
SECTION 5 PARTS LIST

SAFETY PRECAUTION

Parts identified by the  symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.



△ REF No. PART No. PART NAME, DESCRIPTION

PACKING ASSEMBLY <M1>

1	LY31631-001A	PACKING CASE,E
	LY31631-003A	PACKING CASE,F
	LY31631-005A	PACKING CASE,B
	LY31752-001A	PACKING CASE,D
	LY31752-002A	PACKING CASE,A
	LY31752-003A	PACKING CASE,C
2	LY31632-001A	CUSHION,B,E,F
	LY31735-001A	CUSHION,A,C,D
3	LY30023-015A	POLY BAG
4	QPA02003006	POLY BAG
△ 5	LYT0534-001A	IB(EN),B,E
△	LYT0534-002A	IB(FR),B,E
△	LYT0535-001A	IB(EN),D,F
△	LYT0535-002A	IB(FR),D,F
△	LYT0558-001A	IB(EN),A
△	LYT0558-002A	IB(FR),A
△	LYT0560-001A	IB(EN),C
△	LYT0560-002A	IB(FR),C
△ 6	LYT0531-001A	IB(SOFT.SETUP),B,E,F
△ 7	LYT0531-002A	IB(SOFT.OPE.EN),B,E,F
8	LYT0378-003A	SHEET(AGREMENT),B,E,F
9	YU10350	Q.CARD(JCA)
10	BT-51005-4	WARRANTY INF.
11	BT-51020-2	REGIST.CARD
12	LY31133-009A	CD ROM ASSY,B,E,F
13	QAM0214-001	RM CABLE,EDITING CABLE
14	QAM0170-001	DC CORD
△ 17	LY31587-001A	BATTERY PACK,BN-V408U
18	QAM0211-001	CABLE ASSY,AUDIO/VIDEO CABLE
19	LY20186-001A	SHOULDER STRAP
20	QAM0084-001	PC CONNECTION CABLE,B,E,F
21	LY20543-002A	REMOTE CONTROL UNIT,B,E,F
	LY42129-001A	REMOTE CONTROL UNIT,A,C,D
22	-	BATTERY,AAA(R03),X2
23	LY42182-001A	LENS CAP
24	QQR0491-002	CORE FILTER
26	QQR0918-002	CORE FILTER
27	QQR0491-002	CORE FILTER
28	QPGA017-03005	POLY BAG
△ 29	LY20591-001B	AC POWER ADAPTER CHARGER, AA-V40U

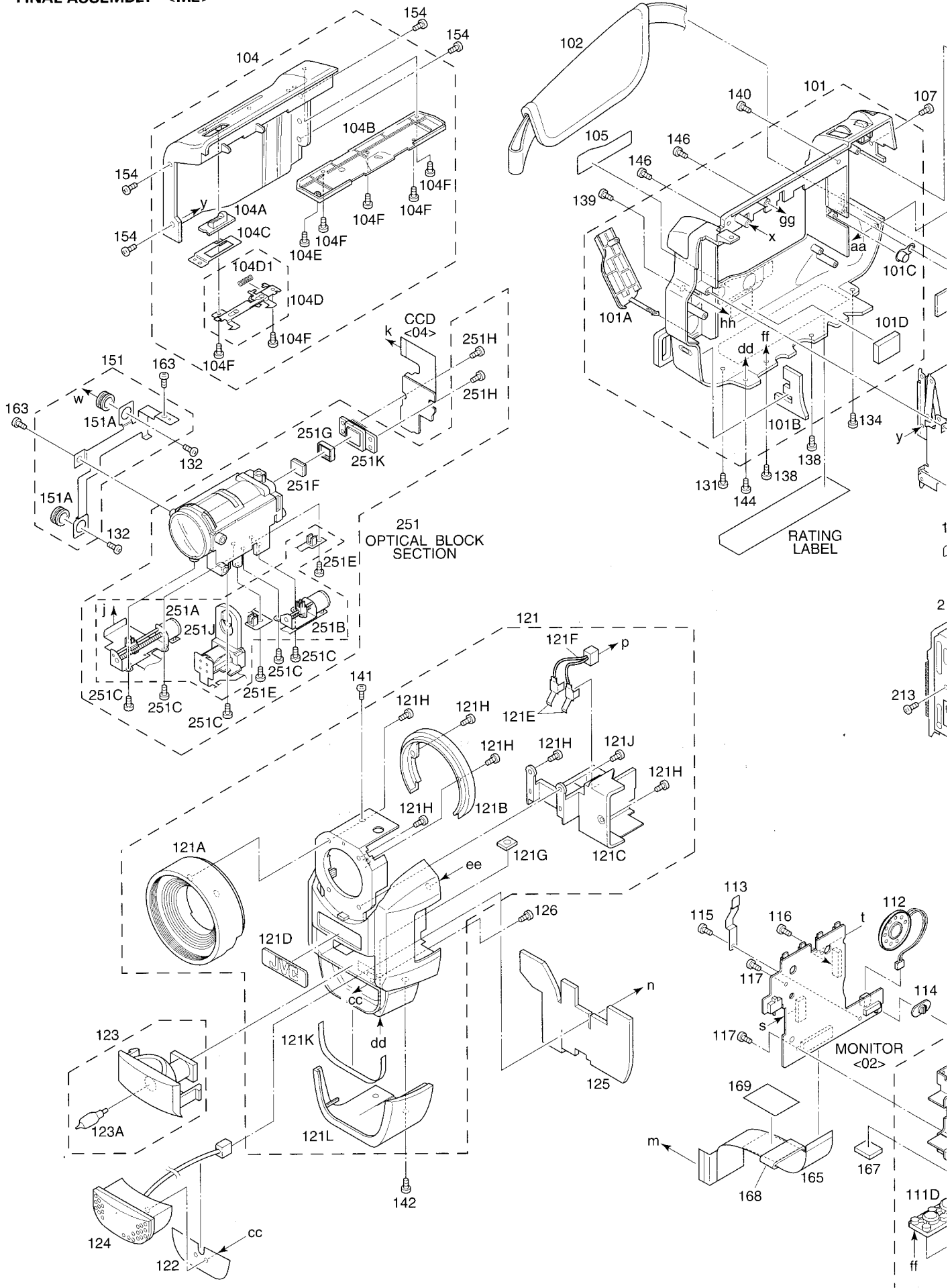
• INSTRUCTIONS

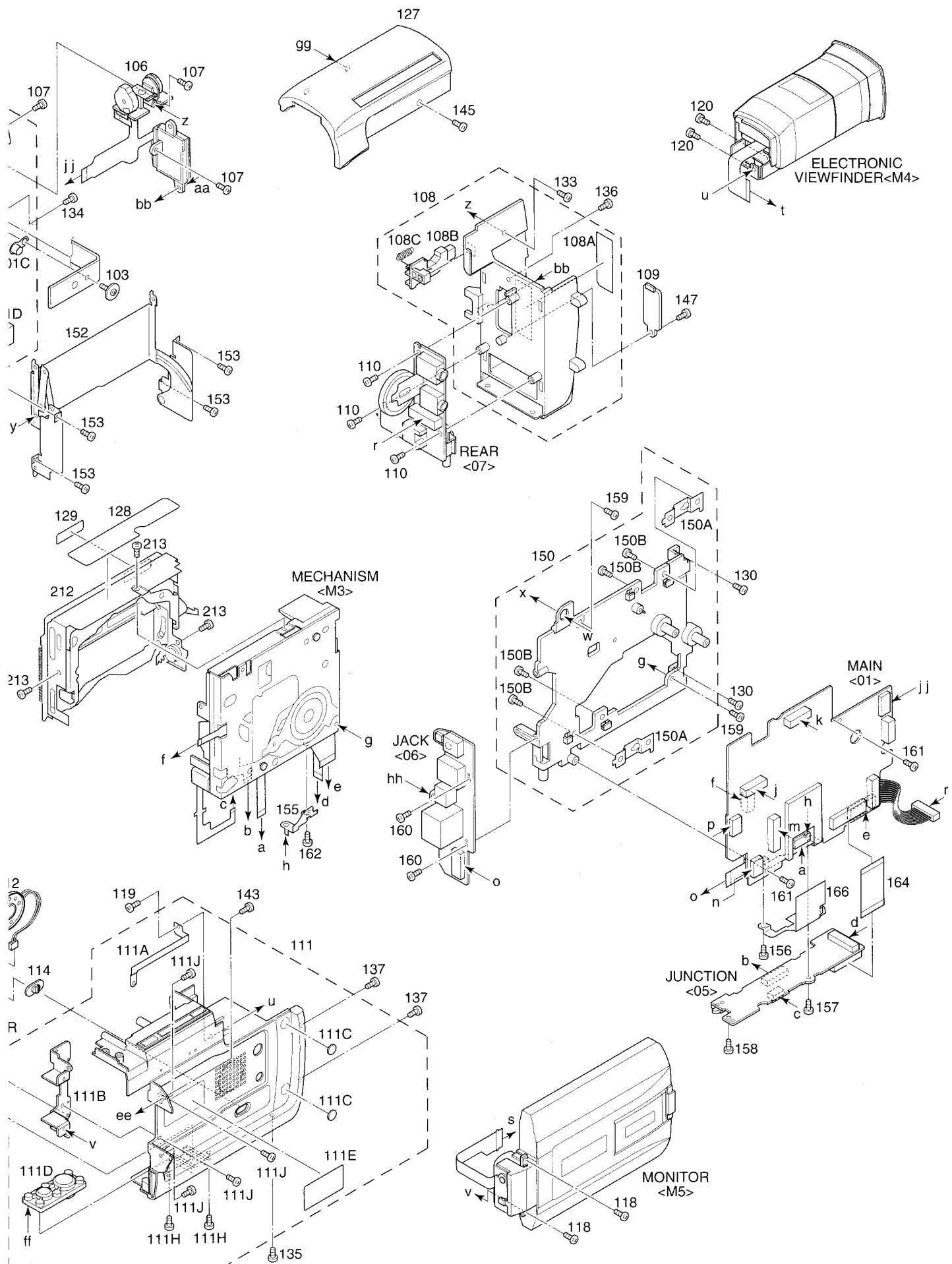
EN ENGLISH

FR FRENCH

MODEL	MARK
GR-DVL100U	A
GR-DVL300U	B
GR-DVL305U	C
GR-DVL307U	D
GR-DVL500U	E
GR-DVL507U	F

5.2 FINAL ASSEMBLY <M2>





△ REF No. PART No. PART NAME, DESCRIPTION

FINAL ASSEMBLY <M2>

△ 101	LY20560-001B	LOWER CASE ASSY
101A	LY31607-001A	JACK COVER
101B	LY42391-001A	SHEET(MIC)2
101C	LY40592-001A	CAP(GRIP BELT)
101D	LY30029-052A	SPACER(A)
102	LY20575-001B	GRIP BELT
103	LY30018-003A	SPECIAL SCREW
104	LY31609-001A	CASS COVER ASSY
104A	LY31610-001A	KNOB(EJECT)
104B	LY31611-001A	COVER(C.C)
104C	LY42173-001A	BKT(E.KNOB)
104D	LY42174-001A	LOCK ASSY
104D1	LY30002-038A	COMPRES. SPRING
104E	LY30018-084A	SPECIAL SCREW
104F	LY30018-023A	SPECIAL SCREW,X6
105	LY42177-001B	SHEET(M.ADJ)
106	LY20542-001A	ZOOM UNIT
107	LY30018-084A	SPECIAL SCREW,X3
108	LY31596-001A	REAR COVER ASSY
108A	LY42161-001A	SHEET(REAR)
108B	LY31595-001A	KNOB(RELEASE)
108C	LY30001-018A	TENSION SPRING
109	LY41691-001A	COVER(JIG)
110	LY30018-084A	SPECIAL SCREW,X3
111	LY20550-001A	UPPER CASE(3)ASSY,E,F
	LY20550-003A	UPPER CASE(3)ASSY,D
	LY20557-001A	UPPER CASE(2.5)ASSY,B
	LY20557-002A	UPPER CASE(2.5)ASSY,A,C
111A	LY31599-001A	SHEET(EARTH)
111B	LY31623-001A	BRACKET
111C	LY40664-002A	SPACER,X2
111D	LY31019-001A	BASE
111E	LY42244-001A	SHEET(MARK)
111H	LY30018-084A	SPECIAL SCREW,X2
111J	LY30018-0A8A	SPECIAL SCREW,X4
112	QAS0048-001	SPEAKER
113	LY42167-001A	PLATE(SPK)
114	LY42168-001A	KNOB(SLIDE)
115	LY30018-023A	SPECIAL SCREW
116	LY30018-0A5A	SPECIAL SCREW
117	LY30018-0A8A	SPECIAL SCREW,X2
118	LY30018-090A	SPECIAL SCREW,X2
119	LY30018-038A	SPECIAL SCREW
120	LY30018-084A	SPECIAL SCREW,X2
121	LY20563-001B	FRONT COVER ASSY
121A	LY31615-001B	HOOD
121B	LY31616-001A	RING
121C	LY20572-001A	HOLDER(L.CONT.)
121D	LY40987-003B	MARK
121E	YQ43810-1-1	CONTACT(LIGHT),X2
121F	WJM0003-006A	E-SI C WIRE C-F
121G	YQ44434	BRACKET
121H	LY30018-0A7A	SPECIAL SCREW,X6
121J	LY30018-079A	SPECIAL SCREW
121K	LY30029-042A	SPACER(A)
121L	LY31614-001A	COVER(BOTTOM)
122	LY42184-001A	PLATE(MIC)
123	LY31617-001A	DC LIGHT ASSY
123A	YQ44266	LAMP
124	LY30861-012A	MICROPHONE
125	LY42390-001A	SHEET(MIC)1

△ REF No. PART No. PART NAME, DESCRIPTION

126	QYSLSF2055D	SPECIAL SCREW
127	LY20552-001A	TOP COVER(3),E
	LY20552-002A	TOP COVER(3),D
	LY20552-003A	TOP COVER(3),F
	LY20559-001A	TOP COVER(2.5),A
	LY20559-002A	TOP COVER(2.5),B
	LY20559-003A	TOP COVER(2.5),C
128	LY40698-002A	LABEL(HOUSING)
129	LY40699-002A	LABEL(PUSH)
130	LY30018-079A	SPECIAL SCREW,X2
131	LY30018-084A	SPECIAL SCREW
132	LY30018-050A	SPECIAL SCREW,X2
133	LY30018-079A	SPECIAL SCREW
134	LY30018-079A	SPECIAL SCREW,X2
135	LY30018-079A	SPECIAL SCREW
136	LY30018-084A	SPECIAL SCREW
137	LY30018-023A	SPECIAL SCREW,X2
138	LY30018-084A	SPECIAL SCREW,X2
139	LY30018-096A	SPECIAL SCREW
140	LY30018-066A	SPECIAL SCREW
141	LY30018-084A	SPECIAL SCREW
142	LY30018-079A	SPECIAL SCREW
143	LY30018-059A	SPECIAL SCREW
144	LY30018-044A	SPECIAL SCREW
145	LY30018-059A	SPECIAL SCREW
146	LY30018-052A	SPECIAL SCREW,X2
147	LY30018-037A	SPECIAL SCREW
150	LY31618-001A	HOLDER(MECHA)ASSY
150A	LY42178-001A	BKT(MECHA),X2
150B	LY30018-056A	SPECIAL SCREW,X4
151	LY42179-001A	BKT(OP)ASSY
151A	LY41675-001A	RUBBER,X2
152	LY31612-001A	ARM ASSY
153	LY30018-084A	SPECIAL SCREW,X4
154	LY30018-066A	SPECIAL SCREW,X4
155	LY40709-001C	BRACKET(GRD)
156	YQ43893-3	MINI SCREW
157	YQ43893-3	MINI SCREW
158	LY30018-023A	SPECIAL SCREW
159	LY30019-021A	SPECIAL SCREW,X2
160	LY30018-023A	SPECIAL SCREW,X2
161	LY30018-023A	SPECIAL SCREW,X2
162	YQ43893-4	MINI SCREW
163	LY30018-024A	SPECIAL SCREW,X2
164	WJT0028-001A	FFC WIRE,MAIN CN113-JUNC CN571
165	WJT0029-003A	FFC WIRE,MAIN CN101-MONI CN7601
166	LY31657-001A	SHIELD CASE(2)
167	LY30029-057A	SPACER(A)
168	QQR0717-001	FERRITE CORE
169	LY30029-058A	SPACER(A)
212	LY30483-001Q	CASSETTE HOUSING ASSY
213	YQ43893-4	MINI SCREW,X3

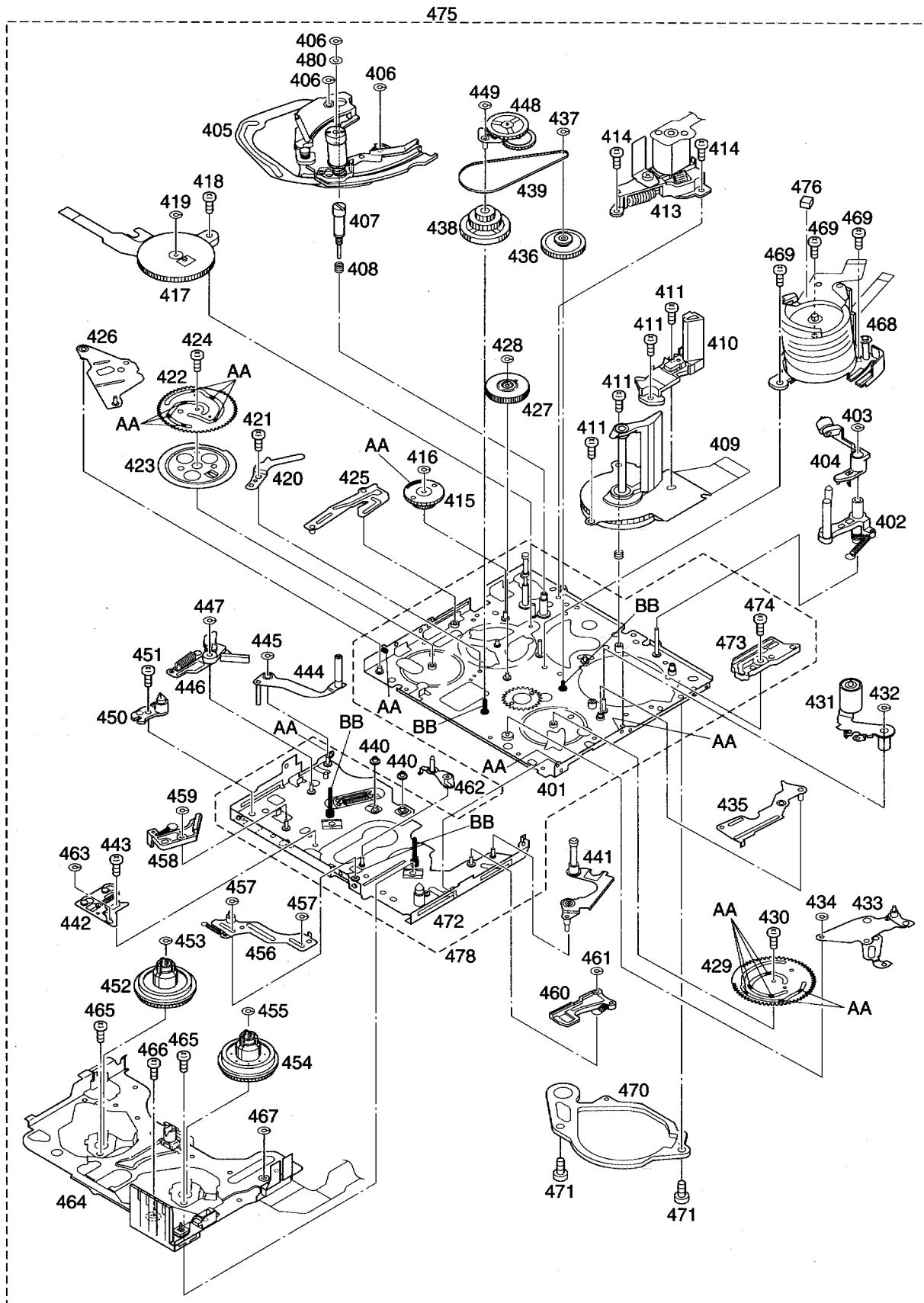
- OPTICAL BLOCK SECTION -

251	YS20973F	OPTICAL BLOCK ASSY
251A	LY30723-001B	ZOOM MOTOR
251B	LY30724-001B	FOCUS MOTOR
251C	LY30727-002A	SCREW,X5
251E	LY30727-001A	SCREW,X2
251F	LY41718-001A	OPTICAL LPF
251G	LY31639-001A	SPACER RUBBER
251H	QYSPSGU1750Z	SCREW,X2
251J	LY31726-001A	IRIS MOTOR
251K	YS40168E	CCD BASE ASSY

5.3 MECHANISM ASSEMBLY <M3>

BEWARE OF BOGUS PARTS

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.



Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-P	AA
Oil	YTU94027	BB

NOTE: The section marked in AA and BB indicate lubrication and greasing areas.

△ REF No. PART No. PART NAME, DESCRIPTION

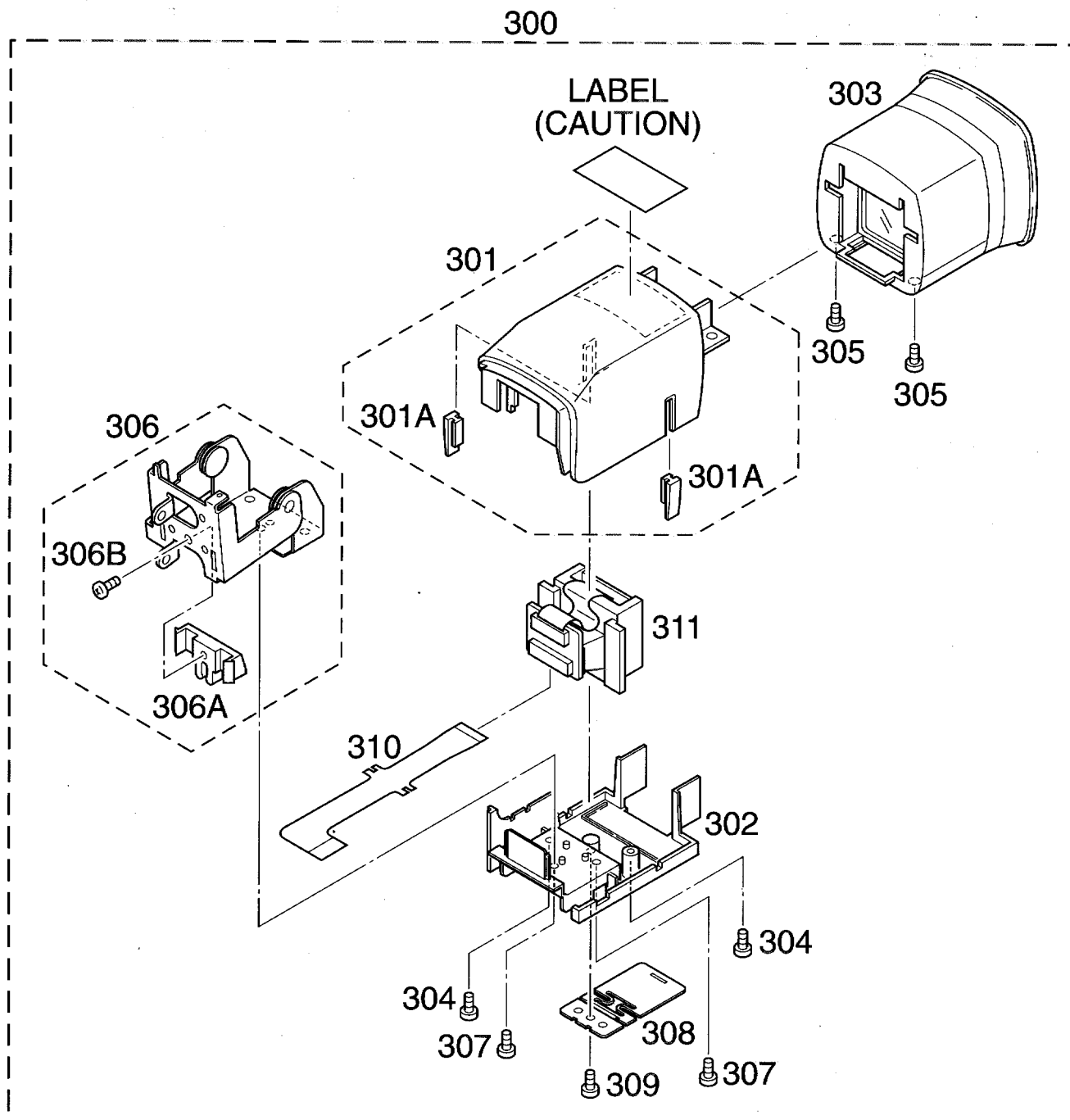
MECHANISM ASSEMBLY <M3>

401	LY10077-001L	MAIN DECK ASSY
402	LY30436-001F	SLANT P.ARM ASSY
403	YQ44246	SLIT WASHER
404	LY30438-001B	CLEANER ARM ASSY
405	LY10080-001V	RAIL ASSY
406	YQ44246	SLIT WASHER,X3
407	LY40353-001D	GUIDE ROLLER(S)ASSY
408	LY30002-006C	COMPRES. SPRING
409	QAR0026-001	CAPSTAN MOTOR
410	LY30504-001C	CATCHER(T)ASSY
411	YQ43893	MINI SCREW,X4
413	LY30448-001D	MOTOR BKT ASSY
414	YQ43893	MINI SCREW,X2
415	LY30449-001C	WORM WHEEL
416	YQ44246	SLIT WASHER
417	LY40496-001C	ROTARY ENCODER
418	YQ43893	MINI SCREW
419	YQ44246	SLIT WASHER
420	LY40614-001B	GEAR HOLDER
421	YQ43893-6	MINI SCREW
422	LY30450-001C	MAIN CAM
423	LY30840-001A	BRAKE CTL PLATE
424	YQ43893	MINI SCREW
425	LY40373-001C	TC LEVER ASSY
426	LY30452-001E	SLIDE LEVER ASSY
427	LY30454-001A	CONNECT GEAR
428	YQ44246	SLIT WASHER
429	LY30455-001B	SUB CAM
430	YQ43893	MINI SCREW
431	LY30456-001F	PINCHROLLER ARM ASSY
432	YQ44246	SLIT WASHER
433	LY30459-001A	CHARGE ARM ASSY
434	YQ44246	SLIT WASHER
435	LY40387-001B	BC LEVER ASSY
436	LY40389-001D	R.D.PULLEY ASSY
437	YQ44246-2	SLIT WASHER
438	LY40391-001G	CENTER GEAR ASSY
439	LY40396-001A	TIMING BELT
440	LY40413-001A	COLLAR,X2
441	LY30468-001E	GUIDE ARM ASSY
442	LY30618-001C	SLIDE GUIDE PLATE ASSY
443	YQ43893-2	MINI SCREW
444	LY40420-001J	TENSION ARM ASSY
445	YQ44246	SLIT WASHER
446	LY30471-001D	PAD ARM ASSY
447	YQ44246	SLIT WASHER
448	LY40432-001H	IDLER ARM ASSY
449	YQ44246-2	SLIT WASHER
450	LY30476-001A	GUIDE PIN(S)
451	YQ43893	MINI SCREW
452	LY40441-001B	REEL DISK(SUPPLY)ASSY
453	YQ44246	SLIT WASHER
454	LY40443-001B	REEL DISK(TAKE-UP)ASSY
455	YQ44246	SLIT WASHER
456	LY30477-001F	CTL PLATE ASSY
457	YQ44246	SLIT WASHER,X2
458	LY40444-001E	LOADING BRAKE ASSY
459	YQ44246	SLIT WASHER

△ REF No. PART No. PART NAME, DESCRIPTION

460	LY40452-001C	SUB BRAKE ASSY
461	YQ44246	SLIT WASHER
462	LY30479-001B	RELEASE GUIDE ASSY
463	YQ44246	SLIT WASHER
464	LY20146-001H	REEL COVER ASSY
465	YQ43893-4	MINI SCREW,X2
466	YQ43893	MINI SCREW
467	YQ44246	SLIT WASHER
468	YDV2086I	DRUM ASSY
469	YQ43893	MINI SCREW,X3
470	LY20138-001D	PWB HOLDER
471	YQ43893	MINI SCREW,X2
472	LY10082-001K	SLIDE DECK ASSY
473	LY30462-001B	LOADING GUIDE
474	YQ43893	MINI SCREW
475	YMA0025H	MECHA(A) ASSY
476	LY30016-0M1A	SPACER-A
478	LY30496-001S	DECK ASSY
480	LY41573-001A	WASHER

5.4 ELECTRONIC VIEWFINDER ASSEMBLY <M4> [GR-DVL305U/500U]



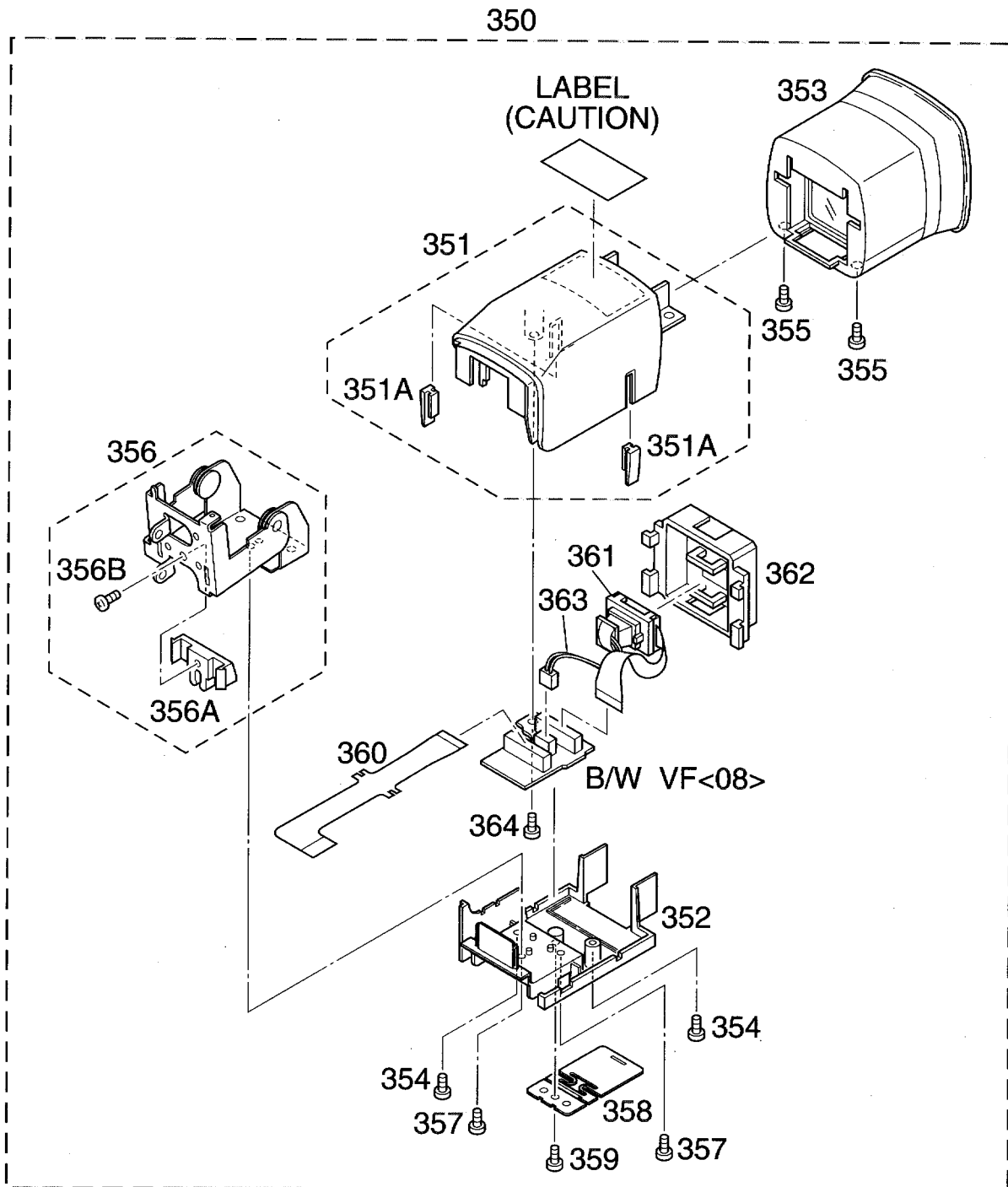
Δ REF No. PART No. PART NAME, DESCRIPTION

ELECTRONIC VIEWFINDER ASSEMBLY <M4>

300	LY20596-001A	COLOR VF UNIT
301	LY31600-001A	VF CASE(UPPER)ASSY
301A	LY42170-001A	GUIDE,X2
302	LY20554-001A	VF CASE(LOWER)
303	LY20555-003A	EYE P.ASSY
304	LY30018-079A	SPECIAL SCREW,X2

# Δ REF No.	PART No.	PART NAME, DESCRIPTION
305	LY30018-079A	SPECIAL SCREW,X2
306	LY31602-001A	HINGE(VF)ASSY
306A	LY31601-001A	CLIP(VF)
306B	LY30018-023A	SPECIAL SCREW
307	LY30018-066A	SPECIAL SCREW,X2
308	LY31250-001A	CAPACITOR
309	LY30018-063A	SPECIAL SCREW
310	QAL0223-001	FPC
311	PTY20596-051	LCD MODULE

5.4 ELECTRONIC VIEWFINDER ASSEMBLY <M4> [GR-DVL100U/300U/307U/507U]



▲ REF No. PART No. PART NAME, DESCRIPTION

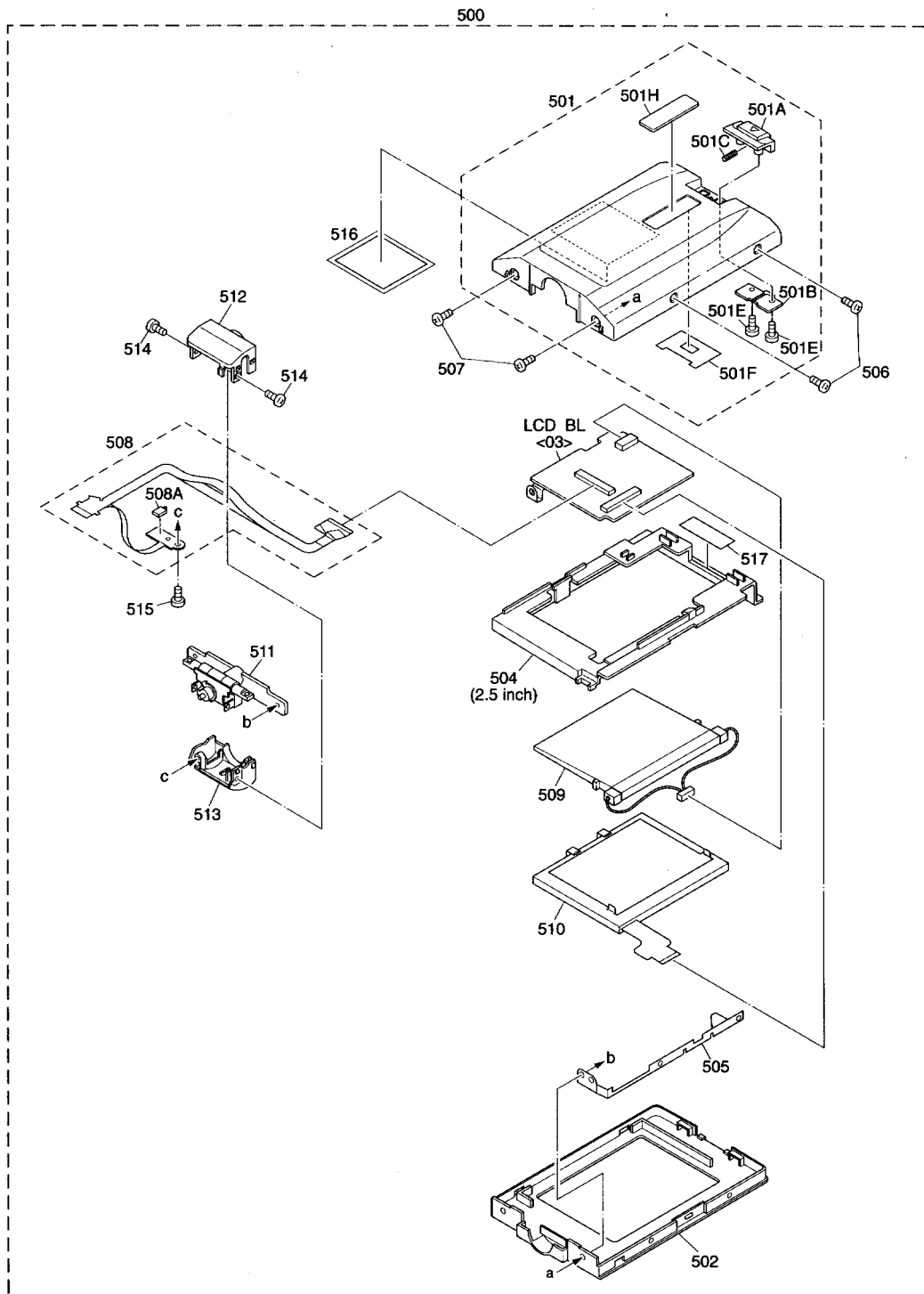
ELECTRONIC VIEWFINDER ASSEMBLY <M4>

350	LYH20136-001A	E.VF ASSY
351	LY31600-001A	VF CASE(UPPER)ASSY
351A	LY42170-001A	GUIDE,X2
352	LY20554-001A	VF CASE(LOWER)
353	LY20555-004A	EYE P.ASSY
354	LY30018-079A	SPECIAL SCREW,X2
355	LY30018-079A	SPECIAL SCREW,X2

▲ REF No. PART No. PART NAME, DESCRIPTION

356	LY31602-001B	HINGE(VF)ASSY
356A	LY31601-001A	CLIP(VF)
356B	LY30018-023A	SPECIAL SCREW
357	LY30018-066A	SPECIAL SCREW,X2
358	LY31250-001A	CAPACITOR
359	LY30018-063A	SPECIAL SCREW
360	QAL0223-002	FPC
361	QLD0133-001	LCD MODULE
362	LY20481-001A	HOLDER(B/W LCD)
363	QLL0067-001	BACK LIGHT
364	LY30018-063A	SPECIAL SCREW

5.5 MONITOR ASSEMBLY <M5> [GR-DVL100U/300U/305U]



▲ REF No. PART No. PART NAME, DESCRIPTION

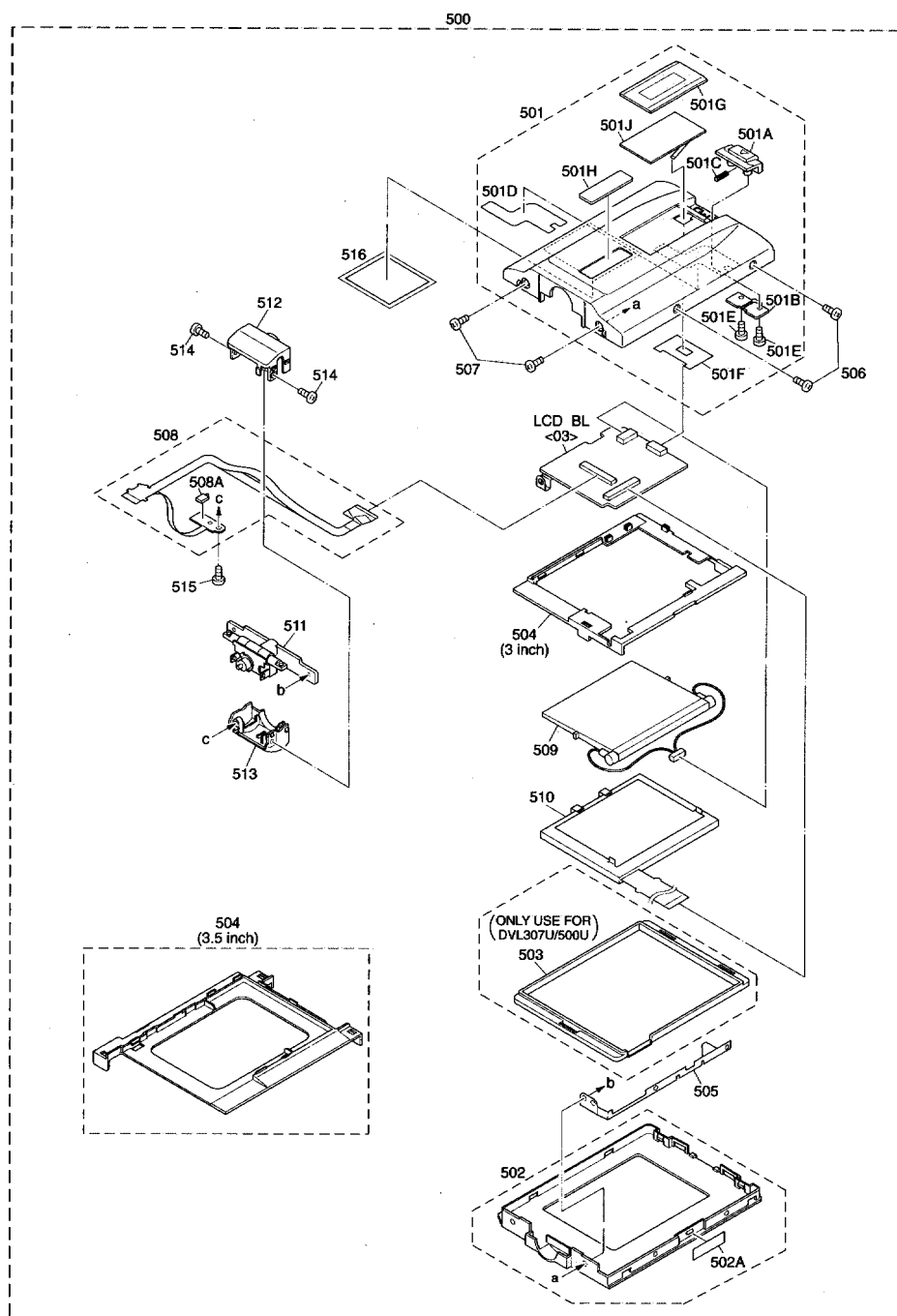
MONITOR ASSEMBLY <M5>

▲ 500	LYH20135-003A	MONITOR ASSY
▲ 501	LY20569-001A	MONITOR COVER ASSY
501A	LY31620-001A	KNOB(LOCK 1)
501B	LY42180-001A	KNOB(LOCK 2)
501C	LY30002-044A	COMPRES. SPRING
501E	LY30018-011A	SPECIAL SCREW,X2
501F	LY42368-001A	SHEET(MON)
501H	LY42162-001A	MARK
502	LY10230-001A	MONITOR CASE(2.5)
504	LY20570-001A	HOLDER(2.5PWB)
505	LY31622-001A	BRACKET(EARTH)

▲ REF No. PART No. PART NAME, DESCRIPTION

506	QYSPSPT1730R	SCREW,X2
507	QYSLSP2040D	SCREW,X2
508	LY31743-001A	MONI.FPC ASSY
508A	NSW0095-001X	DETECT SWITCH
509	QLL0079-001	BACK LIGHT
510	QLD0130-001	LCD MODULE
511	LY31236-003A	HINGE ASSY
512	LY31624-001A	HINGE COVER(1)
513	LY31625-001A	HINGE COVER(2)
514	LY30018-058A	SPECIAL SCREW,X2
515	LY30018-023A	SPECIAL SCREW
516	LY40559-001A	SHIELD SHEET
517	LY30029-063A	SPACER(A)

5.5 MONITOR ASSEMBLY <M5> [GR-DVL307U/500U/507U]



#	△ REF No.	PART No.	PART NAME, DESCRIPTION	#	△ REF No.	PART No.	PART NAME, DESCRIPTION
*****				502A	LY42388-001A	EARTH MON(2)	
				503	LY20566-001A	HOLDER(3LCD),D,E	
				504	LY20567-001A	HOLDER(3PWB),D,E	
					LY20568-001A	HOLDER(3.5PWB),F	
				505	LY31622-001A	BRACKET(EARTH)	
△	500	LYH20135-001B	MONITOR ASSY,D,E	506	QYSPSPT1730R	SCREW,X2	
△		LYH20135-002B	MONITOR ASSY,F	507	QYSLSP2040D	SCREW,X2	
△	501	LY20565-001A	MONITOR COVER ASSY,D,E	508	LY31743-001A	MONI.FPC ASSY	
△		LY20565-002A	MONITOR COVER ASSY,F	508A	NSW0095-001X	DETECT SWITCH	
	501A	LY31620-001A	KNOB(LOCK 1)	509	QLL0080-001	BACK LIGHT,D,E	
	501B	LY42180-001A	KNOB(LOCK 2)		QLL0081-001	BACK LIGHT,F	
	501C	LY30002-044A	COMPRES. SPRING	510	QLD0096-002	LCD MODULE,F	
	501D	LY42386-001A	EARTH MON		QLD0118-001	LCD MODULE,D,E	
	501E	LY30018-011A	SPECIAL SCREW,X2	511	LY31236-003A	HINGE ASSY	
	501F	LY42368-001A	SHEET(MON)	512	LY31624-001A	HINGE COVER(1)	
	501G	LY31621-001A	WINDOW	513	LY31625-001A	HINGE COVER(2)	
	501H	LY42162-001A	MARK	514	LY30018-058A	SPECIAL SCREW,X2	
	501J	LY42193-001A	EL(WINDOW)	515	LY30018-023A	SPECIAL SCREW	
	502	LY20598-001A	MONITOR CASE ASSY,D,E	516	LY40559-001A	SHIELD SHEET	
		LY20598-002A	MONITOR CASE ASSY,F				

5.6 ELECTRICAL PARTS LIST

MODEL	MARK	MODEL	MARK
GR-DVL100U	A	GR-DVL307U	D
GR-DVL300U	B	GR-DVL500U	E
GR-DVL305U	C	GR-DVL507U	F

△ REF No. PART No. PART NAME, DESCRIPTION

MAIN BOARD ASSEMBLY <01>

PW	YB10277A-01	MAIN BOARD ASSY,E
	YB10277B-01	MAIN BOARD ASSY,D
	YB10277D-01	MAIN BOARD ASSY,A
	YB10277E-01	MAIN BOARD ASSY,B
	YB10277H-01	MAIN BOARD ASSY,F
	YB10277J-01	MAIN BOARD ASSY,C
IC1001	MN102F1617HL-L1	IC(MICRO C ROM)
	or MN1021617FP	IC(MICRO C ROM)
IC1002	MB90097PFV133	IC(MICRO C ROM)
IC1003	AT25160N-10SC-X	IC
	or NM25C160LZEM8	IC
IC1004	RS5C314	IC
IC1009	S-814A30AMC-W	IC
IC1010	IC-PST9323U-X	IC
IC1014	SN74LV08APW	IC
IC1301	SN74LV08APW	IC,B,E,F
IC1302	MAX3221CAE	IC,B,E,F
IC1303	SN74LV02APW	IC
IC1401	MN103004KRH	IC(MICRO C ROM)
	or MN1030F04KYB-A1	IC(MICRO C ROM)
	or MN1030F14KYB-A1	IC(MICRO C ROM)
	or YQ44847A	CSP IC ASSY
	or MN1030F14KYB-A1	IC(MICRO C ROM)
	or YQ44847A	CSP IC ASSY
IC1402	TC7W14FU	IC(DIGITAL)
	or SN74AHC2G14T	IC
IC1403	TC7W66FK	IC
IC1405	TC7W53FU	IC(DIGITAL)
	or SN74AHC2G53T	IC
IC1601	BD6630KV	IC
IC2201	AK4560VQ	IC
IC3001	JCY0106-2	IC
IC3002	M51V18165D50TSK	IC(DIGITAL)
IC3005	SN74AHC1G04K	IC
IC3007	TC7SL00FU	IC(DIGITAL)
IC3101	PDI1394P11ABD	IC
IC3201	JCY0107QP	IC
IC3202	TC7SH00FU	IC(DIGITAL)
IC3301	JCY0108	IC
IC3501	AN3731FHQ	IC(DIGITAL)
IC3701	MM1510XN	IC
IC4201	HD49323AF	IC
IC4202	MM1385HN	IC
IC4301	JCY0120	IC(DIGITAL)
IC4302	MSM548331TA	IC(DIGITAL)
IC4303	MM1385NN	IC
IC4802	TA75W01FU	IC
IC4803	TA75W01FU	IC
IC4804	NJM3414AV	IC
IC4805	MM6564XFBE	IC
IC4851	UPD16879GS	IC
IC5501	JCY0117	IC
IC6001	FA3676F	IC
IC6301	S-80842ANNP-W	IC
Q1002	DTA144EE	TRANSISTOR
	or PDA144EE	TRANSISTOR
Q1003	DTA114EE	TRANSISTOR

△ REF No. PART No. PART NAME, DESCRIPTION

	or PDA114EE	TRANSISTOR
Q1004	DTC144EE	TRANSISTOR
	or PDC144EE	TRANSISTOR
Q1008	DTC144EE	TRANSISTOR
	or PDC144EE	TRANSISTOR
Q1009	DTC144EE	TRANSISTOR
	or PDC144EE	TRANSISTOR
Q1010	DTA114EE	TRANSISTOR
	or PDA114EE	TRANSISTOR
Q1301	2SC4617/QR/-X	TRANSISTOR
Q1401	DTA114EE	TRANSISTOR
	or PDA114EE	TRANSISTOR
Q1402	UMC3N	TRANSISTOR
Q1403	UMC3N	TRANSISTOR
Q1601	UMC3N	TRANSISTOR
Q2201	2SC4617/QR/-X	TRANSISTOR
Q2202	UMX1N	PAIR TRANSISTOR
Q2401	2SC4617/QR/-X	TRANSISTOR
Q2402	2SD1511/R/-X	TRANSISTOR
Q2601	2SA1774/QR/-X	TRANSISTOR
Q2602	2SA1774/QR/-X	TRANSISTOR
Q2603	2SC4617/QR/-X	TRANSISTOR
Q2604	2SC4617/QR/-X	TRANSISTOR
Q3501	2SC4226/4/-X	TRANSISTOR
Q3502	2SD1979/S/-X	TRANSISTOR
Q3503	2SD1979/S/-X	TRANSISTOR
Q3504	2SC4226/4/-X	TRANSISTOR
Q3505	2SA1577/QR/-X	TRANSISTOR
Q3506	DTC144EE	TRANSISTOR
	or PDC144EE	TRANSISTOR
	or RN1104	TRANSISTOR
	or UN9213J	TRANSISTOR
	or PDC144EE	TRANSISTOR
	or RN1104	TRANSISTOR
Q3701	HN1C01FU/G/-X	PAIR TRANSISTOR
	or PUMX1	PAIR TRANSISTOR
Q3702	2SC4617/QR/-X	TRANSISTOR
	or 2SC4738/YG/-X	TRANSISTOR
Q3703	2SA1774/QR/-X	TRANSISTOR
	or 2SA1832/YG/-X	TRANSISTOR
Q3704	HN1C01FU/G/-X	PAIR TRANSISTOR
	or PUMX1	PAIR TRANSISTOR
Q3705	HN1A01FU/G/-X	PAIR TRANSISTOR
	or PUMT1	PAIR TRANSISTOR
Q3706	HN1C01FU/G/-X	PAIR TRANSISTOR
	or PUMX1	PAIR TRANSISTOR
Q3707	HN1A01FU/G/-X	PAIR TRANSISTOR
	or PUMT1	PAIR TRANSISTOR
Q3708	2SC4617/QR/-X	TRANSISTOR
	or 2SC4738/YG/-X	TRANSISTOR
Q3709	2SC4617/QR/-X	TRANSISTOR
	or 2SC4738/YG/-X	TRANSISTOR
Q3710	2SC4617/QR/-X	TRANSISTOR
	or 2SC4738/YG/-X	TRANSISTOR
Q3711	2SA1774/QR/-X	TRANSISTOR
	or 2SA1832/YG/-X	TRANSISTOR
Q4302	UMT2N	PAIR TRANSISTOR
Q4306	2SA1774/QR/-X	TRANSISTOR
Q4803	2SC4655/BC/-X	TRANSISTOR
Q4851	2SC4617/QR/-X	TRANSISTOR
Q6111	CPH3304	MOS FET

#	△	REF No.	PART No.	PART NAME, DESCRIPTION		#	△	REF No.	PART No.	PART NAME, DESCRIPTION	
			Q6121	CPH3304	MOS FET			R1015	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
			Q6123	2SB1121/TU/-X	TRANSISTOR			R1017	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
			Q6124	2SC4617/QR/-X	TRANSISTOR			R1018	NRSA6AJ-104W	MG RESISTOR	100kΩ, 1/16W
				or 2SC4738/YG/-X	TRANSISTOR			R1021	NRSA6AJ-104W	MG RESISTOR	100kΩ, 1/16W
			Q6131	CPH3304	MOS FET			R1022	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
			Q6132	DTC144EE	TRANSISTOR			R1025	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
				or RN1104	TRANSISTOR			R1026	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
			Q6141	CPH3304	MOS FET			R1034	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
			Q6151	CPH3304	MOS FET			R1035	NRSA6AJ-104W	MG RESISTOR	100kΩ, 1/16W
			Q6161	CPH3304	MOS FET			R1037	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
			Q6162	HN1C01FU/G/-X	PAIR TRANSISTOR			R1038	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
			Q6163	2SA1577/QR/-X	TRANSISTOR			R1039	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
			Q6164	2SC4617/QR/-X	TRANSISTOR, A,B,C			R1042	NRSA6AJ-183W	MG RESISTOR	18kΩ, 1/16W
				or 2SC4738/YG/-X	TRANSISTOR, A,B,C			R1043	NRSA6AJ-473W	MG RESISTOR	47kΩ, 1/16W
			Q6165	HN1A01FU/G/-X	PAIR TRANSISTOR			R1045	NRSA6AJ-222W	MG RESISTOR	2.2kΩ, 1/16W
			Q6166	2SC4617/QR/-X	TRANSISTOR			R1047	NRSA6AJ-473W	MG RESISTOR	47kΩ, 1/16W
				or 2SC4738/YG/-X	TRANSISTOR			R1048	NRSA6AJ-393W	MG RESISTOR	39kΩ, 1/16W
			Q6167	2SA1774/QR/-X	TRANSISTOR			R1049	NRSA6AJ-223W	MG RESISTOR	22kΩ, 1/16W
				or 2SA1832/YG/-X	TRANSISTOR			R1050	NRSA6AJ-104W	MG RESISTOR	100kΩ, 1/16W
			Q6168	DTC144EE	TRANSISTOR			R1051	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
				or RN1104	TRANSISTOR			R1052	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
			Q6201	2SA1774/QR/-X	TRANSISTOR			R1053	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
				or 2SA1832/YG/-X	TRANSISTOR			R1054	NRSA6AJ-822W	MG RESISTOR	8.2kΩ, 1/16W
			Q6202	2SD1621(TU)	TRANSISTOR			R1055	NRSA6AJ-101W	MG RESISTOR	100Ω, 1/16W
			Q6203	2SC4617/QR/-X	TRANSISTOR			R1056	NRSA6AJ-101W	MG RESISTOR	100Ω, 1/16W
				or 2SC4738/YG/-X	TRANSISTOR			R1057	NRSA6AJ-123W	MG RESISTOR	12kΩ, 1/16W
			Q6301	DTC144EE	TRANSISTOR			R1058	NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
				or RN1104	TRANSISTOR			R1060	NRSA6AJ-224W	MG RESISTOR	220kΩ, 1/16W
			Q6302	2SK1830	MOS FET			R1062	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
			Q6303	2SJ347	MOS FET			R1063	NRSA6AJ-681W	MG RESISTOR	680Ω, 1/16W
			Q6304	2SK1830	MOS FET			R1065	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
			Q6305	CPH3304	MOS FET			R1066	NRSA6AJ-473W	MG RESISTOR	47kΩ, 1/16W
△		D1001	RB715F	SB DIODE				R1067	NRSA6AJ-393W	MG RESISTOR	39kΩ, 1/16W
		D1303	SB007W03Q	SB DIODE				R1068	NRSA6AJ-561W	MG RESISTOR	560Ω, 1/16W
		D1602	DAP222	DIODE				R1071	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
		D1603	DAP222	DIODE				R1072	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
		D1604	DAP222	DIODE				R1073	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
		D5501	1SS355	DIODE				R1074	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
		D6111	CRS06	SB DIODE				R1076	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
		D6121	CRS06	SB DIODE				R1077	NRVA6AD-473W	CMF RESISTOR	47kΩ, 1/16W
		D6122	1SS357	SB DIODE				R1078	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
		D6131	CRS06	SB DIODE				R1079	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
		D6141	CRS06	SB DIODE				R1080	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
		D6151	CRS06	SB DIODE				R1081	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
		D6152	CRS06	SB DIODE				R1082	NRSA6AJ-101W	MG RESISTOR	100Ω, 1/16W
		D6161	1SS383	SB DIODE				R1083	NRSA6AJ-101W	MG RESISTOR	100Ω, 1/16W
		D6163	1SS383	SB DIODE				R1084	NRSA6AJ-101W	MG RESISTOR	100Ω, 1/16W
		D6165	MA8091/L/-X	ZENER DIODE				R1085	NRSA6AJ-101W	MG RESISTOR	100Ω, 1/16W
		R1001	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W			R1302	NRSA6AJ-472W	MG RESISTOR	4.7kΩ, 1/16W
		R1003	NRSA6AJ-104W	MG RESISTOR	100kΩ, 1/16W			R1307	NRSA6AJ-472W	MG RESISTOR	4.7kΩ, 1/16W
		R1004	NRSA6AJ-104W	MG RESISTOR	100kΩ, 1/16W			R1310	NRSA6AJ-0R0W	MG RESISTOR, A,C,D	0Ω, 1/16W
△		R1005	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W			R1311	NRSA6AJ-0R0W	MG RESISTOR, A,C,D	0Ω, 1/16W
		R1006	NRVA6AD-823W	CMF RESISTOR	82kΩ, 1/16W			R1408	NRSA6AJ-331W	MG RESISTOR	330Ω, 1/16W
		R1007	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W			R1410	NRSA6AJ-331W	MG RESISTOR	330Ω, 1/16W
		R1008	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W			R1412	NRSA6AJ-222W	MG RESISTOR	2.2kΩ, 1/16W
		R1009	NRVA6AD-473W	CMF RESISTOR	47kΩ, 1/16W			R1413	NRSA6AJ-222W	MG RESISTOR	2.2kΩ, 1/16W
		R1010	NRSA6AJ-473W	MG RESISTOR	47kΩ, 1/16W			R1414	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
		R1011	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W			R1415	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
		R1012	NRSA6AJ-104W	MG RESISTOR	100kΩ, 1/16W			R1420	NRSA6AJ-101W	MG RESISTOR	100Ω, 1/16W
		R1013	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W			R1427	NRSA6AJ-332W	MG RESISTOR	3.3kΩ, 1/16W
		R1014	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W			R1428	NRSA6AJ-332W	MG RESISTOR	3.3kΩ, 1/16W

# ▲ REF No.	PART No.	PART NAME, DESCRIPTION	
R1429	NRSA6AJ-332W	MG RESISTOR	3.3kΩ, 1/16W
R1430	NRSA6AJ-753W	MG RESISTOR	75kΩ, 1/16W
R1431	NRSA6AJ-334W	MG RESISTOR	330kΩ, 1/16W
R1432	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
R1433	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R1434	NRSA6AJ-153W	MG RESISTOR	15kΩ, 1/16W
R1435	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R1438	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R1439	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R1444	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R1445	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R1446	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R1447	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R1450	NRSA6AJ-332W	MG RESISTOR	3.3kΩ, 1/16W
R1451	NRSA6AJ-332W	MG RESISTOR	3.3kΩ, 1/16W
R1452	NRSA6AJ-332W	MG RESISTOR	3.3kΩ, 1/16W
R1453	NRSA6AJ-332W	MG RESISTOR	3.3kΩ, 1/16W
R1458	NRSA6AJ-683W	MG RESISTOR	68kΩ, 1/16W
R1459	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R1460	NRSA6AJ-683W	MG RESISTOR	68kΩ, 1/16W
R1461	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R1464	NRSA6AJ-820W	MG RESISTOR	82Ω, 1/16W
R1465	NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R1466	NRSA6AJ-473W	MG RESISTOR	47kΩ, 1/16W
R1467	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R1468	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R1469	NRSA6AJ-221W	MG RESISTOR	220Ω, 1/16W
R1470	NRSA6AJ-221W	MG RESISTOR	220Ω, 1/16W
R1471	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R1474	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
R1475	NRSA6AJ-473W	MG RESISTOR	47kΩ, 1/16W
R1476	NRSA6AJ-331W	MG RESISTOR	330Ω, 1/16W
R1477	NRSA6AJ-472W	MG RESISTOR	4.7kΩ, 1/16W
R1480	NRSA6AJ-104W	MG RESISTOR	100kΩ, 1/16W
R1601	NRSA6AJ-681W	MG RESISTOR	680Ω, 1/16W
R1602	NRSA6AJ-124W	MG RESISTOR	120kΩ, 1/16W
R1603	NRSA6AJ-472W	MG RESISTOR	4.7kΩ, 1/16W
R1604	NRSA6AJ-104W	MG RESISTOR	100kΩ, 1/16W
R1605	NRV142F-R22X	CMF RESISTOR	0.22Ω, 1/4W
R1606	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
R1609	NRV142F-R33X	CMF RESISTOR	0.33Ω, 1/4W
R1610	NRSA6AJ-471W	MG RESISTOR	470Ω, 1/16W
R1611	NRSA6AJ-471W	MG RESISTOR	470Ω, 1/16W
R1612	NRSA6AJ-104W	MG RESISTOR	100kΩ, 1/16W
R1613	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R1614	NRSA6AJ-682W	MG RESISTOR	6.8kΩ, 1/16W
R1615	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
R1616	NRSA6AJ-391W	MG RESISTOR	390Ω, 1/16W
R1617	NRSA6AJ-224W	MG RESISTOR	220kΩ, 1/16W
R1618	NRSA6AJ-154W	MG RESISTOR	150kΩ, 1/16W
R1619	NRSA6AJ-223W	MG RESISTOR	22kΩ, 1/16W
R1620	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
R1621	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
R1622	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
R1624	NRVA6AD-123W	CMF RESISTOR	12kΩ, 1/16W
R1625	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
R1626	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
R1627	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
R1628	NRVA6AD-361W	CMF RESISTOR	360Ω, 1/16W
R1629	NRSA6AJ-684W	MG RESISTOR	680kΩ, 1/16W
R1630	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W

# ▲ REF No.	PART No.	PART NAME, DESCRIPTION	
R1631	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
R1635	NRSA6AJ-472W	MG RESISTOR	4.7kΩ, 1/16W
R1636	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
R1637	NRSA6AJ-124W	MG RESISTOR	120kΩ, 1/16W
R1644	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
R2101	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
R2102	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
R2103	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
R2104	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
R2105	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
R2106	NRSA6AJ-100W	MG RESISTOR	10Ω, 1/16W
R2201	NRSA6AJ-2R7W	MG RESISTOR	2.7Ω, 1/16W
R2202	NRSA6AJ-2R7W	MG RESISTOR	2.7Ω, 1/16W
R2203	NRSA6AJ-183W	MG RESISTOR	18kΩ, 1/16W
R2204	NRSA6AJ-104W	MG RESISTOR	100kΩ, 1/16W
R2205	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
R2206	NRSA6AJ-332W	MG RESISTOR	3.3kΩ, 1/16W
R2207	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R2208	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R2209	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R2213	NRSA6AJ-222W	MG RESISTOR	2.2kΩ, 1/16W
R2214	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
R2401	NRSA6AJ-820W	MG RESISTOR	82Ω, 1/16W
R2402	NRSA6AJ-820W	MG RESISTOR	82Ω, 1/16W
R2403	NRSA6AJ-820W	MG RESISTOR	82Ω, 1/16W
R2404	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R2405	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
R2406	NRSA6AJ-113W	MG RESISTOR	11kΩ, 1/16W
R2601	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R2602	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R2603	NRSA6AJ-472W	MG RESISTOR	4.7kΩ, 1/16W
R2604	NRSA6AJ-472W	MG RESISTOR	4.7kΩ, 1/16W
R2605	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R2606	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R2607	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R2608	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R2609	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
R2610	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
R2611	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
R2612	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
R2613	NRSA6AJ-682W	MG RESISTOR	6.8kΩ, 1/16W
R2614	NRSA6AJ-682W	MG RESISTOR	6.8kΩ, 1/16W
R2615	NRSA6AJ-104W	MG RESISTOR	100kΩ, 1/16W
R2616	NRSA6AJ-104W	MG RESISTOR	100kΩ, 1/16W
R2621	NRSA6AJ-104W	MG RESISTOR	100kΩ, 1/16W
R2622	NRSA6AJ-104W	MG RESISTOR	100kΩ, 1/16W
R2623	NRSA6AJ-473W	MG RESISTOR	47kΩ, 1/16W
R2624	NRSA6AJ-473W	MG RESISTOR	47kΩ, 1/16W
R2625	NRSA6AJ-682W	MG RESISTOR	6.8kΩ, 1/16W
R2626	NRSA6AJ-682W	MG RESISTOR	6.8kΩ, 1/16W
R2627	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
R2628	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
R2629	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
R2630	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
R2631	NRSA6AJ-472W	MG RESISTOR	4.7kΩ, 1/16W
R2632	NRSA6AJ-472W	MG RESISTOR	4.7kΩ, 1/16W
R2633	NRSA6AJ-681W	MG RESISTOR	680Ω, 1/16W
R2634	NRSA6AJ-681W	MG RESISTOR	680Ω, 1/16W
R2635	NRSA6AJ-332W	MG RESISTOR	3.3kΩ, 1/16W
R2636	NRSA6AJ-332W	MG RESISTOR	3.3kΩ, 1/16W
R3002	NRSA6AJ-105W	MG RESISTOR	1MΩ, 1/16W

# ▲ REF No.	PART No.	PART NAME, DESCRIPTION		# ▲ REF No.	PART No.	PART NAME, DESCRIPTION	
R3007	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W	R3344	NRSA6AJ-823W	MG RESISTOR	82kΩ, 1/16W
R3008	NRSA6AJ-100W	MG RESISTOR	10Ω, 1/16W	R3345	NRSA6AJ-105W	MG RESISTOR	1MΩ, 1/16W
R3030	NRSA6AJ-682W	MG RESISTOR	6.8kΩ, 1/16W	R3346	NRSA6AJ-333W	MG RESISTOR	33kΩ, 1/16W
R3031	NRSA6AJ-472W	MG RESISTOR	4.7kΩ, 1/16W	R3347	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
R3032	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W	R3348	NRSA6AJ-223W	MG RESISTOR	22kΩ, 1/16W
R3052	NRSA6AJ-101W	MG RESISTOR	100Ω, 1/16W	R3349	NRVA6AD-273W	CMF RESISTOR	27kΩ, 1/16W
R3054	NRSA6AJ-331W	MG RESISTOR	330Ω, 1/16W	R3350	NRVA6AD-183W	CMF RESISTOR	18kΩ, 1/16W
R3056	NRSA6AJ-471W	MG RESISTOR	470Ω, 1/16W	R3351	NRVA6AD-121W	CMF RESISTOR	120Ω, 1/16W
R3057	NRSA6AJ-101W	MG RESISTOR	100Ω, 1/16W	R3357	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
R3058	NRSA6AJ-105W	MG RESISTOR	1MΩ, 1/16W	R3361	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
R3059	NRSA6AJ-101W	MG RESISTOR	100Ω, 1/16W	R3362	NRSA6AJ-471W	MG RESISTOR	470Ω, 1/16W
R3060	NRSA6AJ-105W	MG RESISTOR	1MΩ, 1/16W	R3363	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R3062	NRSA6AJ-124W	MG RESISTOR	120kΩ, 1/16W	R3364	NRSA6AJ-473W	MG RESISTOR	47kΩ, 1/16W
R3063	NRSA6AJ-124W	MG RESISTOR	120kΩ, 1/16W	R3366	NRSA6AJ-562W	MG RESISTOR	5.6kΩ, 1/16W
R3101	NRSA6AJ-331W	MG RESISTOR	330Ω, 1/16W	R3367	NRSA6AJ-152W	MG RESISTOR	1.5kΩ, 1/16W
R3102	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W	R3379	NRSA6AJ-822W	MG RESISTOR	8.2kΩ, 1/16W
R3103	NRSA6AJ-104W	MG RESISTOR	100kΩ, 1/16W	R3380	NRSA6AJ-822W	MG RESISTOR	8.2kΩ, 1/16W
R3105	NRSA6AJ-104W	MG RESISTOR	100kΩ, 1/16W	R3502	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
R3106	NRSA6AJ-471W	MG RESISTOR	470Ω, 1/16W	R3504	NRSA6AJ-152W	MG RESISTOR	1.5kΩ, 1/16W
R3113	NRSA6AJ-394W	MG RESISTOR	390kΩ, 1/16W	R3506	NRSA6AJ-471W	MG RESISTOR	470Ω, 1/16W
R3115	NRSA6AJ-472W	MG RESISTOR	4.7kΩ, 1/16W	R3507	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
R3117	NRSA6AJ-560W	MG RESISTOR	56Ω, 1/16W	R3508	NRSA6AJ-272W	MG RESISTOR	2.7kΩ, 1/16W
R3118	NRSA6AJ-560W	MG RESISTOR	56Ω, 1/16W	R3509	NRSA6AJ-331W	MG RESISTOR	330Ω, 1/16W
R3119	NRSA6AJ-560W	MG RESISTOR	56Ω, 1/16W	R3510	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R3120	NRSA6AJ-560W	MG RESISTOR	56Ω, 1/16W	R3511	NRSA6AJ-152W	MG RESISTOR	1.5kΩ, 1/16W
R3121	NRSA6AJ-512W	MG RESISTOR	5.1kΩ, 1/16W	R3512	NRSA6AJ-123W	MG RESISTOR	12kΩ, 1/16W
R3128	NRSA6AJ-512W	MG RESISTOR	5.1kΩ, 1/16W	R3513	NRSA6AJ-680W	MG RESISTOR	68Ω, 1/16W
R3201	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W	R3514	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R3202	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W	R3515	NRSA6AJ-181W	MG RESISTOR	180Ω, 1/16W
R3211	NRSA6AJ-272W	MG RESISTOR	2.7kΩ, 1/16W	R3516	NRSA6AJ-181W	MG RESISTOR	180Ω, 1/16W
R3212	NRSA6AJ-473W	MG RESISTOR	47kΩ, 1/16W	R3517	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
R3215	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W	R3518	NRSA6AJ-680W	MG RESISTOR	68Ω, 1/16W
R3221	NRSA6AJ-680W	MG RESISTOR	68Ω, 1/16W	R3519	NRSA6AJ-123W	MG RESISTOR	12kΩ, 1/16W
R3224	NRSA6AJ-101W	MG RESISTOR	100Ω, 1/16W	R3520	NRSA6AJ-152W	MG RESISTOR	1.5kΩ, 1/16W
R3234	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W	R3521	NRSA6AJ-100W	MG RESISTOR	10Ω, 1/16W
R3236	NRSA6AJ-105W	MG RESISTOR	1MΩ, 1/16W	R3523	NRSA6AJ-473W	MG RESISTOR	47kΩ, 1/16W
R3303	NRSA6AJ-391W	MG RESISTOR	390Ω, 1/16W	R3524	NRSA6AJ-392W	MG RESISTOR	3.9kΩ, 1/16W
R3304	NRSA6AJ-121W	MG RESISTOR	120Ω, 1/16W	R3701	NRVA6AD-561W	CMF RESISTOR	560Ω, 1/16W
R3307	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W	R3702	NRVA6AD-472W	CMF RESISTOR	4.7kΩ, 1/16W
R3308	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W	R3703	NRSA6AJ-101W	MG RESISTOR	100Ω, 1/16W
R3309	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W	R3704	NRVA6AD-272W	CMF RESISTOR	2.7kΩ, 1/16W
R3310	NRSA6AJ-222W	MG RESISTOR	2.2kΩ, 1/16W	R3705	NRSA6AJ-561W	MG RESISTOR	560Ω, 1/16W
R3312	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W	R3706	NRSA6AJ-152W	MG RESISTOR	1.5kΩ, 1/16W
R3313	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W	R3708	NRSA6AJ-222W	MG RESISTOR	2.2kΩ, 1/16W
R3314	NRSA6AJ-333W	MG RESISTOR	33kΩ, 1/16W	R3709	NRSA6AJ-222W	MG RESISTOR	2.2kΩ, 1/16W
R3315	NRSA6AJ-123W	MG RESISTOR	12kΩ, 1/16W	R3710	NRSA6AJ-222W	MG RESISTOR	2.2kΩ, 1/16W
R3316	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W	R3711	NRSA6AJ-223W	MG RESISTOR	22kΩ, 1/16W
R3317	NRSA6AJ-222W	MG RESISTOR	2.2kΩ, 1/16W	R3712	NRSA6AJ-332W	MG RESISTOR	3.3kΩ, 1/16W
R3318	NRSA6AJ-562W	MG RESISTOR	5.6kΩ, 1/16W	R3713	NRSA6AJ-101W	MG RESISTOR	100Ω, 1/16W
R3330	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W	R3714	NRVA6AD-331W	CMF RESISTOR	330Ω, 1/16W
R3331	NRSA6AJ-222W	MG RESISTOR	2.2kΩ, 1/16W	R3715	NRSA6AJ-561W	MG RESISTOR	560Ω, 1/16W
R3332	NRSA6AJ-823W	MG RESISTOR	82kΩ, 1/16W	R3716	NRSA6AJ-152W	MG RESISTOR	1.5kΩ, 1/16W
R3333	NRSA6AJ-223W	MG RESISTOR	22kΩ, 1/16W	R3717	NRSA6AJ-223W	MG RESISTOR	22kΩ, 1/16W
R3334	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W	R3718	NRSA6AJ-332W	MG RESISTOR	3.3kΩ, 1/16W
R3335	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W	R3719	NRSA6AJ-332W	MG RESISTOR	3.3kΩ, 1/16W
R3336	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W	R3720	NRSA6AJ-332W	MG RESISTOR	3.3kΩ, 1/16W
R3337	NRSA6AJ-105W	MG RESISTOR	1MΩ, 1/16W	R3721	NRSA63J-750X	MG RESISTOR	75Ω, 1/16W
R3338	NRSA6AJ-473W	MG RESISTOR	47kΩ, 1/16W	R3722	NRSA63J-750X	MG RESISTOR	75Ω, 1/16W
R3339	NRSA6AJ-473W	MG RESISTOR	47kΩ, 1/16W	R3723	NRSA63J-750X	MG RESISTOR	75Ω, 1/16W
R3341	NRSA6AJ-223W	MG RESISTOR	22kΩ, 1/16W	R3724	NRSA6AJ-561W	MG RESISTOR	560Ω, 1/16W
R3343	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W	R3725	NRSA6AJ-561W	MG RESISTOR	560Ω, 1/16W

#	△ REF No.	PART No.	PART NAME, DESCRIPTION		#	△ REF No.	PART No.	PART NAME, DESCRIPTION	
	R3726	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W		R4821	NRSA6AJ-104W	MG RESISTOR	100kΩ, 1/16W
	R3727	NRSA6AJ-123W	MG RESISTOR	12kΩ, 1/16W		R4822	NRSA6AJ-333W	MG RESISTOR	33kΩ, 1/16W
	R3728	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W		R4823	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
	R4201	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W		R4824	NRSA6AJ-472W	MG RESISTOR	4.7kΩ, 1/16W
	R4203	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W		R4825	NRSA6AJ-183W	MG RESISTOR	18kΩ, 1/16W
	R4204	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W		R4826	NRSA6AJ-333W	MG RESISTOR	33kΩ, 1/16W
	R4205	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W		R4827	NRSA6AJ-122W	MG RESISTOR	1.2kΩ, 1/16W
	R4206	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W		R4851	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
	R4207	NRSA6AJ-473W	MG RESISTOR	47kΩ, 1/16W		R4853	NRSA6AJ-271W	MG RESISTOR	270Ω, 1/16W
	R4301	NRSA6AJ-100W	MG RESISTOR	10Ω, 1/16W		R4854	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
	R4302	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W		R4856	NRSA63J-6R8X	MG RESISTOR	6.8Ω, 1/16W
	R4304	NRSA6AJ-333W	MG RESISTOR	33kΩ, 1/16W		R4857	NRSA63J-6R8X	MG RESISTOR	6.8Ω, 1/16W
	R4305	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W		R4858	NRSA6AJ-333W	MG RESISTOR	33kΩ, 1/16W
	R4309	NRVA6AD-272W	CMF RESISTOR	2.7kΩ, 1/16W		R4859	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
	R4311	NRVA6AD-272W	CMF RESISTOR	2.7kΩ, 1/16W		R4860	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
	R4313	NRVA6AD-272W	CMF RESISTOR	2.7kΩ, 1/16W		R4862	NRSA63J-6R8X	MG RESISTOR	6.8Ω, 1/16W
	R4315	NRVA6AD-750W	CMF RESISTOR	75Ω, 1/16W		R4863	NRSA63J-6R8X	MG RESISTOR	6.8Ω, 1/16W
	R4316	NRSA6AJ-152W	MG RESISTOR	1.5kΩ, 1/16W		R4864	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
	R4317	NRVA6AD-620W	CMF RESISTOR	62Ω, 1/16W		R4865	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
	R4318	NRSA6AJ-152W	MG RESISTOR	1.5kΩ, 1/16W		R4866	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
	R4328	NRSA6AJ-152W	MG RESISTOR	1.5kΩ, 1/16W		R4867	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
	R4329	NRSA6AJ-682W	MG RESISTOR	6.8kΩ, 1/16W		R4868	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
	R4330	NRSA6AJ-220W	MG RESISTOR	22Ω, 1/16W		R4869	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
	R4333	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W		R4871	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
	R4334	NRVA6AD-221W	CMF RESISTOR	220Ω, 1/16W		R5501	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
	R4335	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W		R5503	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
	R4338	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W		R5504	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
	R4339	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W		R5505	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
	R4341	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W		R5506	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
	R4342	NRVA6AD-750W	CMF RESISTOR	75Ω, 1/16W		R5507	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
	R4343	NRVA6AD-101W	CMF RESISTOR	100Ω, 1/16W		R5509	NRSA6AJ-100W	MG RESISTOR	10Ω, 1/16W
	R4350	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W		R5510	NRSA6AJ-100W	MG RESISTOR	10Ω, 1/16W
	R4351	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W		R5511	NRSA6AJ-100W	MG RESISTOR	10Ω, 1/16W
	R4352	NRVA6AD-123W	CMF RESISTOR	12kΩ, 1/16W		R5512	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
	R4353	NRVA6AD-103W	CMF RESISTOR	10kΩ, 1/16W		R5513	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
	R4354	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W		R5514	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W
	R4355	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W		R6001	NRSA6AJ-224W	MG RESISTOR	220kΩ, 1/16W
	R4357	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W		R6002	NRSA6AJ-184W	MG RESISTOR	180kΩ, 1/16W
	R4358	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W		R6009	NRVA6AD-113W	CMF RESISTOR	11kΩ, 1/16W
	R4359	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W		R6010	NRSA6AJ-223W	MG RESISTOR	22kΩ, 1/16W
	R4360	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W		R6011	NRSA6AJ-223W	MG RESISTOR	22kΩ, 1/16W
	R4361	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W		R6012	NRSA6AJ-472W	MG RESISTOR	4.7kΩ, 1/16W
	R4801	NRSA6AJ-104W	MG RESISTOR	100kΩ, 1/16W		R6111	NRSA6AJ-4R7W	MG RESISTOR	4.7Ω, 1/16W
	R4802	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W		R6112	NRVA6AD-223W	CMF RESISTOR	22kΩ, 1/16W
	R4803	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W		R6113	NRVA6AD-113W	CMF RESISTOR	11kΩ, 1/16W
	R4804	NRSA6AJ-151W	MG RESISTOR	150Ω, 1/16W		R6121	NRSA6AJ-4R7W	MG RESISTOR	4.7Ω, 1/16W
	R4805	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W		R6122	NRVA6AD-183W	CMF RESISTOR	18kΩ, 1/16W
	R4806	NRSA6AJ-823W	MG RESISTOR	82kΩ, 1/16W		R6123	NRVA6AD-472W	CMF RESISTOR	4.7kΩ, 1/16W
	R4807	NRSA6AJ-683W	MG RESISTOR	68kΩ, 1/16W		R6125	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
	R4808	NRSA6AJ-243W	MG RESISTOR	24kΩ, 1/16W		R6126	NRSA6AJ-152W	MG RESISTOR	1.5kΩ, 1/16W
	R4809	NRSA6AJ-681W	MG RESISTOR	680Ω, 1/16W		R6127	NRSA6AJ-473W	MG RESISTOR	47kΩ, 1/16W
	R4810	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W		R6131	NRSA6AJ-473W	MG RESISTOR	47kΩ, 1/16W
	R4811	NRSA6AJ-564W	MG RESISTOR	560kΩ, 1/16W		R6132	NRSA6AJ-4R7W	MG RESISTOR	4.7Ω, 1/16W
	R4812	NRSA6AJ-153W	MG RESISTOR	15kΩ, 1/16W		R6133	NRSA6AJ-243W	MG RESISTOR	24kΩ, 1/16W
	R4814	NRSA6AJ-105W	MG RESISTOR	1MΩ, 1/16W		R6134	NRVA6AD-302W	CMF RESISTOR	3kΩ, 1/16W
	R4815	NRSA6AJ-472W	MG RESISTOR	4.7kΩ, 1/16W		R6135	NRSA6AJ-123W	MG RESISTOR	12kΩ, 1/16W
	R4816	NRSA6AJ-185W	MG RESISTOR	1.8MΩ, 1/16W		R6136	NRSA6AJ-104W	MG RESISTOR	100kΩ, 1/16W
	R4817	NRSA6AJ-564W	MG RESISTOR	560kΩ, 1/16W		R6137	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
	R4818	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W		R6138	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
	R4819	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W		R6141	NRSA6AJ-4R7W	MG RESISTOR	4.7Ω, 1/16W
	R4820	NRSA6AJ-104W	MG RESISTOR	100kΩ, 1/16W		R6142	NRSA6AJ-473W	MG RESISTOR	47kΩ, 1/16W

# △ REF No.	PART No.	PART NAME, DESCRIPTION		# △ REF No.	PART No.	PART NAME, DESCRIPTION	
R6143	NRSA6AJ-562W	MG RESISTOR	5.6kΩ, 1/16W	C1012	NCFA1HZ-103W	CAPACITOR	0.01μF, 50V
R6144	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W	C1013	NDCA1HJ-120W	CAPACITOR	12pF, 50V
R6145	NRSA6AJ-223W	MG RESISTOR	22kΩ, 1/16W	C1015	NCFA1HZ-103W	CAPACITOR	0.01μF, 50V
R6146	NRSA6AJ-473W	MG RESISTOR	47kΩ, 1/16W	C1016	NCFA1AZ-104W	CAPACITOR	0.1μF, 10V
R6151	NRSA6AJ-4R7W	MG RESISTOR	4.7Ω, 1/16W	C1019	NCFA1AZ-104W	CAPACITOR	0.1μF, 10V
R6152	NRVA6AD-123W	CMF RESISTOR	12kΩ, 1/16W	C1021	NCFA1AZ-104W	CAPACITOR	0.1μF, 10V
R6153	NRVA6AD-113W	CMF RESISTOR	11kΩ, 1/16W	C1022	NCFA1HZ-103W	CAPACITOR	0.01μF, 50V
R6161	NRSA6AJ-4R7W	MG RESISTOR	4.7Ω, 1/16W	C1023	NCFA1HZ-103W	CAPACITOR	0.01μF, 50V
R6162	NRVA6AD-683W	CMF RESISTOR	68kΩ, 1/16W	C1024	NCFA1HZ-103W	CAPACITOR	0.01μF, 50V
R6163	NRVA6AD-472W	CMF RESISTOR	4.7kΩ, 1/16W	C1026	NCFA1HZ-103W	CAPACITOR	0.01μF, 50V
R6165	NRSA6AJ-473W	MG RESISTOR	47kΩ, 1/16W	C1027	NCFA1HZ-103W	CAPACITOR	0.01μF, 50V
R6166	NRSA6AJ-273W	MG RESISTOR	27kΩ, 1/16W	C1028	NCFA1HZ-103W	CAPACITOR	0.01μF, 50V
R6167	NRSA6AJ-822W	MG RESISTOR	8.2kΩ, 1/16W	C1031	NCFA1HZ-103W	CAPACITOR	0.01μF, 50V
R6168	NRVA6AD-513W	CMF RESISTOR	51kΩ, 1/16W	C1032	NBE40JM-226X	T CAPACITOR	22μF, 6.3V
R6169	NRVA6AD-823W	CMF RESISTOR	82kΩ, 1/16W	C1034	NBE40JM-226X	T CAPACITOR	22μF, 6.3V
R6170	NRVA6AD-473W	CMF RESISTOR	47kΩ, 1/16W	C1037	NCFA1HZ-103W	CAPACITOR	0.01μF, 50V
R6171	NRSA6AJ-222W	MG RESISTOR, A,B,C	2.2kΩ, 1/16W	C1041	NCFA1AZ-104W	CAPACITOR	0.1μF, 10V
R6172	NRVA6AD-623W	CMF RESISTOR	62kΩ, 1/16W	C1042	NCFA1HZ-103W	CAPACITOR	0.01μF, 50V
R6174	NRVA6AD-823W	CMF RESISTOR	82kΩ, 1/16W	C1043	NCFA1AZ-104W	CAPACITOR	0.1μF, 10V
R6175	NRSA6AJ-333W	MG RESISTOR	33kΩ, 1/16W	C1301	NCBA1AK-104W	CAPACITOR, B,E,F	0.1μF, 10V
R6176	NRSA6AJ-333W	MG RESISTOR	33kΩ, 1/16W	C1302	NCBA1AK-104W	CAPACITOR, B,E,F	0.1μF, 10V
R6177	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W	C1303	NCBA1AK-104W	CAPACITOR, B,E,F	0.1μF, 10V
R6178	NRSA6AJ-222W	MG RESISTOR	2.2kΩ, 1/16W	C1304	NCBA1AK-104W	CAPACITOR, B,E,F	0.1μF, 10V
R6179	NRSA6AJ-272W	MG RESISTOR	2.7kΩ, 1/16W	C1305	NCBA1AK-104W	CAPACITOR, B,E,F	0.1μF, 10V
R6180	NRSA6AJ-823W	MG RESISTOR	82kΩ, 1/16W	C1306	NCBA1AK-104W	CAPACITOR, B,E,F	0.1μF, 10V
R6181	NRSA6AJ-104W	MG RESISTOR	100kΩ, 1/16W	C1307	NCBA1AK-104W	CAPACITOR	0.1μF, 10V
R6182	NRSA6AJ-473W	MG RESISTOR	47kΩ, 1/16W	C1401	NCFA1AZ-104W	CAPACITOR	0.1μF, 10V
R6201	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W	C1402	NCFA1AZ-104W	CAPACITOR	0.1μF, 10V
R6202	NRSA6AJ-181W	MG RESISTOR	180Ω, 1/16W	C1414	NCBA1CK-103W	CAPACITOR	0.01μF, 16V
R6203	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W	C1415	NCBA1CK-103W	CAPACITOR	0.01μF, 16V
R6205	NRSA6AJ-184W	MG RESISTOR	180kΩ, 1/16W	C1416	NCBA1CK-103W	CAPACITOR	0.01μF, 16V
R6206	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W	C1417	NCFA1AZ-104W	CAPACITOR	0.1μF, 10V
R6301	NRSA6AJ-104W	MG RESISTOR	100kΩ, 1/16W	C1418	NBE20JM-106X	T CAPACITOR	10μF, 6.3V
R6302	NRSA6AJ-104W	MG RESISTOR	100kΩ, 1/16W	C1419	NBE20JM-106X	T CAPACITOR	10μF, 6.3V
R6303	NRSA6AJ-224W	MG RESISTOR	220kΩ, 1/16W	C1420	NCBA1CK-223W	CAPACITOR	0.022μF, 16V
R6304	NRSA6AJ-183W	MG RESISTOR	18kΩ, 1/16W	C1421	NCBA1CK-223W	CAPACITOR	0.022μF, 16V
R6305	NRSA6AJ-104W	MG RESISTOR	100kΩ, 1/16W	C1422	NCBA1CK-223W	CAPACITOR	0.022μF, 16V
R6306	NRSA6AJ-104W	MG RESISTOR	100kΩ, 1/16W	C1423	NCBA1CK-223W	CAPACITOR	0.022μF, 16V
R6307	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W	C1424	NBE20JM-106X	T CAPACITOR	10μF, 6.3V
R6914	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W	C1425	NCFA1AZ-104W	CAPACITOR	0.1μF, 10V
RA1001	NRZ0034-102W	NETWORK RESISTOR	1kΩ	C1601	NCBA1CK-103W	CAPACITOR	0.01μF, 16V
RA1002	NRZ0034-102W	NETWORK RESISTOR	1kΩ	C1602	NBE21AM-106X	T CAPACITOR	10μF, 10V
RA1003	NRZ0034-104W	NETWORK RESISTOR	100kΩ	C1603	NBE21AM-106X	T CAPACITOR	10μF, 10V
RA1004	NRZ0034-104W	NETWORK RESISTOR	100kΩ	C1605	NCBA1AK-104W	CAPACITOR	0.1μF, 10V
RA1005	NRZ0034-102W	NETWORK RESISTOR	1kΩ	C1606	NCBA1HK-152W	CAPACITOR	0.0015μF, 50V
RA1006	NRZ0034-102W	NETWORK RESISTOR	1kΩ	C1607	NCBA1AK-473W	CAPACITOR	0.047μF, 10V
RA1401	NRZ0034-473W	NETWORK RESISTOR	47kΩ	C1614	NBE21AM-106X	T CAPACITOR	10μF, 10V
RA1402	NRZ0034-102W	NETWORK RESISTOR	1kΩ	C1618	NCBA1HK-222W	CAPACITOR	0.0022μF, 50V
RA1403	NRZ0034-102W	NETWORK RESISTOR	1kΩ	C1619	NCBA1HK-222W	CAPACITOR	0.0022μF, 50V
RA4301	NRZ0034-101W	NETWORK RESISTOR	100Ω	C1620	NCBA1HK-222W	CAPACITOR	0.0022μF, 50V
RA4302	NRZ0034-101W	NETWORK RESISTOR	100Ω	C1621	NCB21AK-105X	CAPACITOR	1μF, 10V
RA4303	NRZ0034-101W	NETWORK RESISTOR	100Ω	C1622	NCBA1CK-223W	CAPACITOR	0.022μF, 16V
RA4304	NRZ0034-100W	NETWORK RESISTOR	10Ω	C1623	NCBA1AK-473W	CAPACITOR	0.047μF, 10V
RA4305	NRZ0034-100W	NETWORK RESISTOR	10Ω	C1624	NCB31EK-103X	CAPACITOR	0.01μF, 25V
RA4306	NRZ0034-100W	NETWORK RESISTOR	10Ω	C1625	NCBA1AK-473W	CAPACITOR	0.047μF, 10V
C1003	NCFA1AZ-104W	CAPACITOR	0.1μF, 10V	C1626	NCBA1HK-331W	CAPACITOR	330pF, 50V
C1004	NCBA1CK-103W	CAPACITOR	0.01μF, 16V	C1627	NCBA1CK-822W	CAPACITOR	0.0082μF, 16V
C1008	NCBA1CK-103W	CAPACITOR	0.01μF, 16V	C1628	NCB21CK-224X	CAPACITOR	0.22μF, 16V
C1009	NCFA1AZ-104W	CAPACITOR	0.1μF, 10V	C1632	NBE21AM-106X	T CAPACITOR	10μF, 10V
C1010	NBE20JM-226X	T CAPACITOR	22μF, 6.3V	C1633	NCF21CZ-684X	CAPACITOR	0.68μF, 16V
C1011	NBP41CM-226X	T CAPACITOR	22μF, 16V	C1635	NCBA1AK-104W	CAPACITOR	0.1μF, 10V

# ▲ REF No.	PART No.	PART NAME, DESCRIPTION		# ▲ REF No.	PART No.	PART NAME, DESCRIPTION	
C1641	NCB31AK-474X	CAPACITOR	0.47μF,10V	C3037	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C2101	NBE20JM-106X	T CAPACITOR	10μF,6.3V	C3038	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C2103	NBE20JM-106X	T CAPACITOR	10μF,6.3V	C3040	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C2201	NCBA1AK-104W	CAPACITOR	0.1μF,10V	C3041	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C2202	NCBA1AK-104W	CAPACITOR	0.1μF,10V	C3042	NCB30JK-474X	CAPACITOR	0.47μF,6.3V
C2203	NBP21CM-105X	T CAPACITOR	1μF,16V	C3047	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C2205	NBP21CM-105X	T CAPACITOR	1μF,16V	C3048	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C2207	NCB30JK-105X	CAPACITOR	1μF,6.3V	C3049	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C2208	NCB30JK-105X	CAPACITOR	1μF,6.3V	C3050	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C2209	NCBA1AK-104W	CAPACITOR	0.1μF,10V	C3101	NDCA1EJ-271W	CAPACITOR	270pF,25V
C2210	NCBA1CK-153W	CAPACITOR	0.015μF,16V	C3102	NCB30JK-105X	CAPACITOR	1μF,6.3V
C2211	NCBA1AK-333W	CAPACITOR	0.033μF,10V	C3103	NCB30JK-105X	CAPACITOR	1μF,6.3V
C2212	NCBA1AK-104W	CAPACITOR	0.1μF,10V	C3104	NCB30JK-105X	CAPACITOR	1μF,6.3V
C2213	NCBA1AK-104W	CAPACITOR	0.1μF,10V	C3105	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C2214	NBP21CM-105X	T CAPACITOR	1μF,16V	C3106	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C2216	NCB30JK-105X	CAPACITOR	1μF,6.3V	C3107	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C2217	NCB30JK-105X	CAPACITOR	1μF,6.3V	C3108	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C2401	NBE20JM-106X	T CAPACITOR	10μF,6.3V	C3109	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C2402	NBE20JM-106X	T CAPACITOR	10μF,6.3V	C3203	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C2601	NCBA1HK-102W	CAPACITOR	0.001μF,50V	C3204	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C2602	NCBA1HK-102W	CAPACITOR	0.001μF,50V	C3205	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C2603	NCBA1EK-682W	CAPACITOR	0.0068μF,25V	C3207	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C2604	NCBA1EK-682W	CAPACITOR	0.0068μF,25V	C3208	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C2605	NCBA1AK-333W	CAPACITOR	0.033μF,10V	C3212	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C2606	NCBA1AK-333W	CAPACITOR	0.033μF,10V	C3213	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C2607	NBP21CM-105X	T CAPACITOR	1μF,16V	C3214	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C2608	NBP21CM-105X	T CAPACITOR	1μF,16V	C3215	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C2609	NBP21VM-104X	T CAPACITOR	0.1μF,35V	C3217	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C2610	NBP21VM-104X	T CAPACITOR	0.1μF,35V	C3218	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C2617	NCBA1AK-104W	CAPACITOR	0.1μF,10V	C3219	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C2618	NCBA1AK-104W	CAPACITOR	0.1μF,10V	C3220	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C2619	NCBA1CK-103W	CAPACITOR	0.01μF,16V	C3221	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C2620	NCBA1CK-103W	CAPACITOR	0.01μF,16V	C3222	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C2622	NBE20JM-106X	T CAPACITOR	10μF,6.3V	C3223	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C2623	NBP21CM-105X	T CAPACITOR	1μF,16V	C3224	NCFA1AZ-104W	CAPACITOR	0.1μF,10V
C2624	NCBA1EK-562W	CAPACITOR	0.0056μF,25V	C3231	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C2625	NCBA1EK-562W	CAPACITOR	0.0056μF,25V	C3232	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C2626	NCBA1EK-562W	CAPACITOR	0.0056μF,25V	C3301	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C2627	NCBA1EK-562W	CAPACITOR	0.0056μF,25V	C3302	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C2628	NCB31CK-473X	CAPACITOR	0.047μF,16V	C3303	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C2629	NCB31CK-473X	CAPACITOR	0.047μF,16V	C3304	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C2630	NCBA1CK-123W	CAPACITOR	0.012μF,16V	C3305	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C2631	NCBA1CK-123W	CAPACITOR	0.012μF,16V	C3306	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C2632	NCBA1HK-332W	CAPACITOR	0.0033μF,50V	C3307	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C2633	NCBA1HK-332W	CAPACITOR	0.0033μF,50V	C3308	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C2634	NCBA1HK-332W	CAPACITOR	0.0033μF,50V	C3309	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C2635	NCBA1HK-332W	CAPACITOR	0.0033μF,50V	C3310	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C2636	NCBA1EK-682W	CAPACITOR	0.0068μF,25V	C3311	NDCA1HJ-151W	CAPACITOR	150pF,50V
C2637	NCBA1EK-682W	CAPACITOR	0.0068μF,25V	C3313	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3003	NBE20JM-106X	T CAPACITOR	10μF,6.3V	C3314	NCBA1HK-102W	CAPACITOR	0.001μF,50V
C3004	NBE20JM-106X	T CAPACITOR	10μF,6.3V	C3316	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3006	NCB31EK-103X	CAPACITOR	0.01μF,25V	C3317	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3009	NDCA1HJ-100W	CAPACITOR	10pF,50V	C3318	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3010	NDCA1HJ-100W	CAPACITOR	10pF,50V	C3319	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3011	NCFA1AZ-104W	CAPACITOR	0.1μF,10V	C3320	NCB30JK-105X	CAPACITOR	1μF,6.3V
C3012	NCFA1AZ-104W	CAPACITOR	0.1μF,10V	C3321	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C3022	NCFA1AZ-104W	CAPACITOR	0.1μF,10V	C3322	NCBA1AK-683W	CAPACITOR	0.068μF,10V
C3023	NCFA1AZ-104W	CAPACITOR	0.1μF,10V	C3323	NCB30JK-105X	CAPACITOR	1μF,6.3V
C3027	NCFA1AZ-104W	CAPACITOR	0.1μF,10V	C3324	NCBA1AK-333W	CAPACITOR	0.033μF,10V
C3028	NCFA1AZ-104W	CAPACITOR	0.1μF,10V	C3326	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3035	NCFA1AZ-104W	CAPACITOR	0.1μF,10V	C3327	NCB30JK-105X	CAPACITOR	1μF,6.3V

# △ REF No.	PART No.	PART NAME, DESCRIPTION		# △ REF No.	PART No.	PART NAME, DESCRIPTION	
C3328	NCB30JK-105X	CAPACITOR	1μF,6.3V	C4205	NCB21CK-105X	CAPACITOR	1μF,16V
C3331	NCFA1AZ-104W	CAPACITOR	0.1μF,10V	C4206	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3332	NCBA1AK-104W	CAPACITOR	0.1μF,10V	C4207	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3333	NCBA1AK-104W	CAPACITOR	0.1μF,10V	C4209	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3334	NCBA1CK-103W	CAPACITOR	0.01μF,16V	C4210	NCB21CK-105X	CAPACITOR	1μF,16V
C3335	NDCA1HJ-100W	CAPACITOR	10pF,50V	C4211	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3336	NCBA1AK-104W	CAPACITOR	0.1μF,10V	C4212	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3337	NCBA1CK-103W	CAPACITOR	0.01μF,16V	C4213	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3501	NCBA1HK-122W	CAPACITOR	0.0012μF,50V	C4214	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3502	NCBA1AK-104W	CAPACITOR	0.1μF,10V	C4215	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3503	NCBA1HK-102W	CAPACITOR	0.001μF,50V	C4216	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3504	NCBA1CK-103W	CAPACITOR	0.01μF,16V	C4217	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3505	NDCA1HJ-470W	CAPACITOR	47pF,50V	C4301	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3506	NCBA1CK-103W	CAPACITOR	0.01μF,16V	C4302	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3507	NCBA1HK-681W	CAPACITOR	680pF,50V	C4303	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3508	NBE20JM-106X	T CAPACITOR	10μF,6.3V	C4304	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3509	NCBA1CK-103W	CAPACITOR	0.01μF,16V	C4305	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C3510	NCBA1CK-103W	CAPACITOR	0.01μF,16V	C4306	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3511	NCBA1CK-103W	CAPACITOR	0.01μF,16V	C4307	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C3512	NCBA1CK-103W	CAPACITOR	0.01μF,16V	C4308	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3513	NCBA1CK-103W	CAPACITOR	0.01μF,16V	C4309	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3514	NCBA1CK-103W	CAPACITOR	0.01μF,16V	C4310	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C3515	NCBA1CK-103W	CAPACITOR	0.01μF,16V	C4311	NBE40JM-226X	T CAPACITOR	22μF,6.3V
C3516	NBE20JM-106X	T CAPACITOR	10μF,6.3V	C4312	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3517	NCBA1HK-152W	CAPACITOR	0.0015μF,50V	C4314	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3518	NBE20JM-106X	T CAPACITOR	10μF,6.3V	C4315	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3519	NDCA1HJ-330W	CAPACITOR	33pF,50V	C4316	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3520	NCBA1CK-103W	CAPACITOR	0.01μF,16V	C4317	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3521	NDCA1HJ-220W	CAPACITOR	22pF,50V	C4318	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3522	NCBA1CK-103W	CAPACITOR	0.01μF,16V	C4319	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3523	NCB21AK-105X	CAPACITOR	1μF,10V	C4320	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3524	NCB21AK-105X	CAPACITOR	1μF,10V	C4321	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3525	NDCA1HJ-220W	CAPACITOR	22pF,50V	C4322	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3526	NCBA1CK-103W	CAPACITOR	0.01μF,16V	C4323	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3527	NCBA1CK-103W	CAPACITOR	0.01μF,16V	C4324	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3528	NDCA1HJ-330W	CAPACITOR	33pF,50V	C4325	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3529	NBE20JM-106X	T CAPACITOR	10μF,6.3V	C4326	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3530	NCBA1HK-152W	CAPACITOR	0.0015μF,50V	C4327	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3531	NCBA1CK-103W	CAPACITOR	0.01μF,16V	C4328	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3532	NBE40JM-226X	T CAPACITOR	22μF,6.3V	C4329	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3533	NCBA1CK-103W	CAPACITOR	0.01μF,16V	C4330	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3534	NBE40JM-226X	T CAPACITOR	22μF,6.3V	C4331	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3535	NBE40JM-226X	T CAPACITOR	22μF,6.3V	C4332	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3701	NBE20JM-106X	T CAPACITOR	10μF,6.3V	C4333	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3702	NCFA1AZ-104W	CAPACITOR	0.1μF,10V	C4335	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C3703	NDCA1HJ-820W	CAPACITOR	82pF,50V	C4337	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3704	NDCA1HJ-150W	CAPACITOR	15pF,50V	C4338	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3705	NCB30JK-105X	CAPACITOR	1μF,6.3V	C4339	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C3706	NCB30JK-105X	CAPACITOR	1μF,6.3V	C4340	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3707	NBE20JM-106X	T CAPACITOR	10μF,6.3V	C4342	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3708	NDCA1HJ-101W	CAPACITOR	100pF,50V	C4343	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3709	NDCA1HJ-150W	CAPACITOR	15pF,50V	C4344	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3710	NCBA1CK-103W	CAPACITOR	0.01μF,16V	C4345	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3711	NBE20JM-226X	T CAPACITOR	22μF,6.3V	C4346	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3712	NCFA1AZ-104W	CAPACITOR	0.1μF,10V	C4347	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C3713	NBE20GM-106X	T CAPACITOR	10μF,4.0V	C4351	NCB30JK-105X	CAPACITOR	1μF,6.3V
C3714	NBE40GM-107X	T CAPACITOR	100μF,4.0V	C4352	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C4201	NBE40GM-107X	T CAPACITOR	100μF,4.0V	C4353	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C4202	NCBA1AK-104W	CAPACITOR	0.1μF,10V	C4801	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C4203	NCB30JK-105X	CAPACITOR	1μF,6.3V	C4802	NCBA1AK-104W	CAPACITOR	0.1μF,10V
C4204	NCBA1AK-104W	CAPACITOR	0.1μF,10V	C4803	NBE20JM-106X	T CAPACITOR	10μF,6.3V

# ▲ REF No.	PART No.	PART NAME, DESCRIPTION		# ▲ REF No.	PART No.	PART NAME, DESCRIPTION	
C4804	NCBA1AK-104W	CAPACITOR	0.1μF,10V	C6018	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C4805	NDCA1HJ-101W	CAPACITOR	100pF,50V	C6019	NCF21CZ-105X	CAPACITOR	1μF,16V
C4806	NCBA1AK-104W	CAPACITOR	0.1μF,10V	C6111	NCB21CK-105X	CAPACITOR	1μF,16V
C4808	NCB30JK-105X	CAPACITOR	1μF,6.3V	C6113	NCB10JK-106X	CAPACITOR	10μF,6.3V
C4809	NCBA1AK-104W	CAPACITOR	0.1μF,10V	C6114	NCBA1HK-102W	CAPACITOR	0.001μF,50V
C4810	NCBA1CK-103W	CAPACITOR	0.01μF,16V	C6121	NCB21CK-105X	CAPACITOR	1μF,16V
C4811	NCBA1CK-103W	CAPACITOR	0.01μF,16V	C6123	NCB10JK-106X	CAPACITOR	10μF,6.3V
C4812	NCBA1AK-104W	CAPACITOR	0.1μF,10V	C6124	NCBA1HK-102W	CAPACITOR	0.001μF,50V
C4813	NCBA1AK-104W	CAPACITOR	0.1μF,10V	C6125	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C4814	NCBA1AK-104W	CAPACITOR	0.1μF,10V	C6126	NCB21CK-105X	CAPACITOR	1μF,16V
C4815	NDC31HJ-331X	CAPACITOR	330pF,50V	C6127	NCB21CK-105X	CAPACITOR	1μF,16V
C4818	NCBA1AK-104W	CAPACITOR	0.1μF,10V	C6131	NCB21CK-105X	CAPACITOR	1μF,16V
C4819	NCB30JK-105X	CAPACITOR	1μF,6.3V	C6132	NCB21CK-105X	CAPACITOR	1μF,16V
C4821	NCBA1AK-104W	CAPACITOR	0.1μF,10V	C6133	NCB31CK-683X	CAPACITOR	0.068μF,16V
C4851	NBE20JM-106X	T CAPACITOR	10μF,6.3V	C6141	NCB21CK-105X	CAPACITOR	1μF,16V
C4852	NCBA1AK-104W	CAPACITOR	0.1μF,10V	C6142	NCB21CK-105X	CAPACITOR	1μF,16V
C4853	NBE21AM-106X	T CAPACITOR	10μF,10V	C6143	NCB21CK-224X	CAPACITOR	0.22μF,16V
C4854	NBE21AM-106X	T CAPACITOR	10μF,10V	C6151	NCB21CK-105X	CAPACITOR	1μF,16V
C4855	NCBA1AK-104W	CAPACITOR	0.1μF,10V	C6153	NCB10JK-106X	CAPACITOR	10μF,6.3V
C4858	NDCA1HJ-680W	CAPACITOR	68pF,50V	C6154	NCBA1EK-472W	CAPACITOR	0.0047μF,25V
C4859	NCBA1HK-102W	CAPACITOR	0.001μF,50V	C6155	NCB30JK-105X	CAPACITOR	1μF,6.3V
C4860	NCBA1HK-102W	CAPACITOR	0.001μF,50V	C6161	NCB21CK-105X	CAPACITOR	1μF,16V
C4861	NCBA1HK-102W	CAPACITOR	0.001μF,50V	C6162	NCB11EK-105X	CAPACITOR	1μF,25V
C4862	NCBA1HK-102W	CAPACITOR	0.001μF,50V	C6163	NCBA1HK-102W	CAPACITOR	0.001μF,50V
C4864	NBE20JM-106X	T CAPACITOR	10μF,6.3V	C6164	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C4865	NCBA1AK-104W	CAPACITOR	0.1μF,10V	C6165	NCB21CK-105X	CAPACITOR,A,B,C	1μF,16V
C5501	NCFA1AZ-104W	CAPACITOR	0.1μF,10V	C6167	NCB21CK-105X	CAPACITOR	1μF,16V
C5503	NCFA1AZ-104W	CAPACITOR	0.1μF,10V	C6168	NCB11EK-105X	CAPACITOR	1μF,25V
C5504	NCFA1AZ-104W	CAPACITOR	0.1μF,10V	C6169	NCB21CK-105X	CAPACITOR	1μF,16V
C5505	NCFA1AZ-104W	CAPACITOR	0.1μF,10V	C6171	NCB21CK-105X	CAPACITOR	1μF,16V
C5506	NBE40GM-476X	T CAPACITOR	47μF,4.0V	C6173	NCB21CK-105X	CAPACITOR	1μF,16V
C5507	NCFA1AZ-104W	CAPACITOR	0.1μF,10V	C6174	NCB21CK-105X	CAPACITOR	1μF,16V
C5508	NCFA1AZ-104W	CAPACITOR	0.1μF,10V	C6175	NCB21CK-105X	CAPACITOR	1μF,16V
C5509	NCFA1AZ-104W	CAPACITOR	0.1μF,10V	C6201	NEA71CM-106X	E CAPACITOR	10μF,16V
C5510	NBP21VM-105X	T CAPACITOR	1μF,35V	C6301	NCBA1CK-103W	CAPACITOR	0.01μF,16V
C5511	NBP21DM-475X	T CAPACITOR	4.7μF,20V	C6401	NCB21CK-105X	CAPACITOR	1μF,16V
C5512	NBE21AM-106X	T CAPACITOR	10μF,10V	C6402	NCB21CK-105X	CAPACITOR	1μF,16V
C5513	NCB31CK-104X	CAPACITOR	0.1μF,16V	L1001	NQL315K-100X	COIL	10μH
C5514	NCFA1AZ-104W	CAPACITOR	0.1μF,10V	L1002	NQL315K-100X	COIL	10μH
C5515	NCFA1AZ-104W	CAPACITOR	0.1μF,10V	L1003	NQL315K-100X	COIL	10μH
C5516	NCFA1AZ-104W	CAPACITOR	0.1μF,10V	L1401	NQL034K-100X	COIL	10μH
C5517	NCB31CK-104X	CAPACITOR	0.1μF,16V	L1602	NQL315M-1R0X	COIL	1μH
C5518	NCBA1AK-104W	CAPACITOR	0.1μF,10V	L2101	NQL315K-100X	COIL	10μH
C5519	NCFA1AZ-104W	CAPACITOR	0.1μF,10V	L2601	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
C6001	NCB21CK-105X	CAPACITOR	1μF,16V	L2602	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
C6002	NCB21CK-105X	CAPACITOR	1μF,16V	L2603	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
C6003	NEA71CM-106X	E CAPACITOR	10μF,16V	L3001	NQR0129-002X	FERRITE BEAD	
C6004	NCB31CK-104X	CAPACITOR	0.1μF,16V	L3002	NQR0129-002X	FERRITE BEAD	
C6005	NCB31CK-104X	CAPACITOR	0.1μF,16V	L3004	NQR0129-002X	FERRITE BEAD	
C6006	NCB31CK-473X	CAPACITOR	0.047μF,16V	L3005	NQR0129-002X	FERRITE BEAD	
C6007	NCF21CZ-105X	CAPACITOR	1μF,16V	L3101	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
C6008	NCB21CK-105X	CAPACITOR	1μF,16V	L3102	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
C6009	NCBA1CK-103W	CAPACITOR	0.01μF,16V	L3103	NQR0384-003X	COIL	
C6010	NCF21CZ-105X	CAPACITOR	1μF,16V	L3104	NQR0384-003X	COIL	
C6011	NCB31CK-104X	CAPACITOR	0.1μF,16V	L3202	NQR0129-002X	FERRITE BEAD	
C6012	NCBA1HK-272W	CAPACITOR	0.0027μF,50V	L3203	NQR0129-002X	FERRITE BEAD	
C6013	NCB31CK-104X	CAPACITOR	0.1μF,16V	L3204	NQR0129-002X	FERRITE BEAD	
C6014	NCBA1HK-561W	CAPACITOR	560pF,50V	L3301	NQR0129-002X	FERRITE BEAD	
C6015	NCBA1HK-561W	CAPACITOR	560pF,50V	L3302	NQR0129-002X	FERRITE BEAD	
C6016	NCBA1CK-103W	CAPACITOR	0.01μF,16V	L3303	NQR0129-002X	FERRITE BEAD	
C6017	NDCA1HJ-101W	CAPACITOR	100pF,50V	L3304	NQR0129-002X	FERRITE BEAD	

#	△ REF No.	PART No.	PART NAME, DESCRIPTION	
L3501		NQL402M-100X	COIL	10μH
L3502		NQL402M-100X	COIL	10μH
L3503		NQL085J-220X	COIL	22μH
L3504		NQL085J-220X	COIL	22μH
L3505		NQL402M-100X	COIL	10μH
L3506		NQL402M-100X	COIL	10μH
L3507		NQL315K-100X	COIL	10μH
L3701		NQL315K-101X	COIL	100μH
L3702		NQL315K-220X	COIL	10μH
L4201		NQR0129-002X	FERRITE BEAD	
L4301		NQR0129-002X	FERRITE BEAD	
L4302		NQR0129-002X	FERRITE BEAD	
L4303		NQL315K-100X	COIL	10μH
L4304		NQL315K-220X	COIL	22μH
L4305		NQR0129-002X	FERRITE BEAD	
L4306		NQR0129-002X	FERRITE BEAD	
L4307		NQL315K-100X	COIL	10μH
L4801		NQL315K-100X	COIL	10μH
L4802		NQL315K-100X	COIL	10μH
L4851		NQR0129-002X	FERRITE BEAD	
L4852		NQL315K-100X	COIL	10μH
L4853		NQL315K-100X	COIL	10μH
L5501		NQL315K-100X	COIL	10μH
L5502		NQR0129-002X	FERRITE BEAD	
L5503		NQR0129-002X	FERRITE BEAD	
L5504		NQR0129-002X	FERRITE BEAD	
L5505		NQL315K-100X	COIL	10μH
L5506		NQL315K-100X	COIL	10μH
L6001		NQLZ011-4R7X	COIL	4.7μH
L6002		NQLZ011-4R7X	COIL	4.7μH
L6111		NQLZ011-390X	COIL	39μH
L6114		NQL144K-220X	COIL	22μH
L6121		NQLZ011-390X	COIL	39μH
L6123		NQL144K-101X	COIL	100μH
L6124		NQL144K-101X	COIL	100μH
L6131		NQLZ011-470X	COIL	47μH
L6141		NQLZ011-470X	COIL	47μH
L6151		NQLZ011-470X	COIL	47μH
L6161		NQLZ011-221X	COIL	220μH
L6401		NQL144K-220X	COIL	22μH
X1001		NAX0294-001X	RESONATOR	
X1002		NAX0325-001X	CRYSTAL RESONATOR	
X3001		NAX0206-001X	CRYSTAL RESONATOR	
X3301		NAX0296-001X	C OSCILLATOR	
X5501		NAX0356-001X	CXO	
WR1		WJJ0148-001A	E-ST C WIRE C-C	
WR2		WJT0027-001A	FFC WIRE	
CN101		QGF0503C1-32V	FFC/FPC CONNECTOR	
CN102		QGF0505F2-22X	FPC CONNECTOR	
CN103		QGA1201F2-11X	CONNECTOR	
CN104		QGA1201F2-02X	CONNECTOR	
CN105		QGB0801K3-20X	CONNECTOR	
CN106		QGA1201F2-03X	CONNECTOR	
CN107		QGF0503C1-18X	FFC/FPC CONNECTOR	
CN108		QGF0512C1-24X	FPC CONNECTOR	
CN110		QGF0505F1-08X	FPC CONNECTOR	
CN111		QGF0503C1-06V	FFC/FPC CONNECTOR	
CN112		QGF0505F2-18X	FPC CONNECTOR	
CN113		QGF0508F1-33X	FPC CONNECTOR	
CN114		QGF0507F1-15X	FPC CONNECTOR	
△ F6001		NMFZ009-2R0X-J1	FUSE	2.0A

#	△ REF No.	PART No.	PART NAME, DESCRIPTION	
△ F6003		NMFZ009-R50X-J1	FUSE	0.5A
△ F6005		NMFZ009-R50X-J1	FUSE	0.5A
OT1		LY30029-043A	SPACER(A)	
OT2		LY30029-055A	SPACER(A)	
SD1		LY31656-001A	SHIELD CASE(1)	

MONITOR BOARD ASSEMBLY <02>

PW1	YB10280A1-01	MONITOR BOARD ASSY,E	
	YB10280B1-01	MONITOR BOARD ASSY,D,F	
	YB10280D1-01	MONITOR BOARD ASSY,C	
	YB10280E1-01	MONITOR BOARD ASSY,A,B	
IC7101	PCVVQ110BFB	IC,A,B,D,F	
IC7601	AN2533FH	IC	
IC7603	AT25040N-10SC-X	IC	
IC7604	BU4053BCFV	IC,C,E	
IC7605	TC4W53FU	IC,C,E	
IC7606	TC7S04FU	IC,C,E	
IC7607	TC7S08FU	IC(DIGITAL),C,E	
Q7602	DTC144EE	TRANSISTOR,C,E	
Q7603	DTA144EE	TRANSISTOR,C,E	
Q7604	DTA114YE	TRANSISTOR,C,E	
Q7605	DTA114YE	TRANSISTOR,C,E	
Q7606	DTA114YE	TRANSISTOR,C,E	
Q7607	2SC4617/QR/-X	TRANSISTOR	
Q7608	2SA1774/QR/-X	TRANSISTOR	
Q7609	2SC4617/QR/-X	TRANSISTOR	
Q7610	2SA1774/QR/-X	TRANSISTOR	
Q7615	DTA144EE	TRANSISTOR	
Q7616	DTC144EE	TRANSISTOR,C,E	
Q7617	DTA114EE	TRANSISTOR,C,E	
Q7618	DTC144EE	TRANSISTOR,C,E	
Q7619	UMZ1N	PAIR TRANSISTOR,C,E	
D7101	MA111	DIODE,A,B,D,F	
D7601	RB471E	SB DIODE	
D7603	MA111	DIODE,C,E	
R2	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R4	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
R5	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
R6	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
R7103	NRSA02J-0R0X	MG RESISTOR,A,B,D,F	0Ω,1/10W
R7104	NRSA63J-0R0X	MG RESISTOR,A,B,D,F	0Ω,1/16W
R7107	NRSA63J-271X	MG RESISTOR,A,B,D,F	270Ω,1/16W
R7108	NRSA63J-182X	MG RESISTOR,A,B,D,F	1.8kΩ,1/16W
R7114	NRSA63J-223X	MG RESISTOR,A,B,D,F	22kΩ,1/16W
R7115	NRSA63J-153X	MG RESISTOR,A,B,D,F	15kΩ,1/16W
R7118	NRSA63J-153X	MG RESISTOR,A,B,D,F	15kΩ,1/16W
R7121	NRSA63J-473X	MG RESISTOR,A,B,D,F	47kΩ,1/16W
R7604	NRSA63J-563X	MG RESISTOR	56kΩ,1/16W
R7610	NRSA63J-563X	MG RESISTOR	56kΩ,1/16W
R7611	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
R7612	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R7613	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
R7616	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R7631	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R7632	NRSA63J-101X	MG RESISTOR,A,B,D,F	100Ω,1/16W

#	△	REF No.	PART No.	PART NAME, DESCRIPTION		#	△	REF No.	PART No.	PART NAME, DESCRIPTION	
R7633			NRSA63J-101X	MG RESISTOR,A,B,D,F	100Ω,1/16W	C7115			NCB31CK-104X	CAPACITOR,A,B,D,F	0.1μF,16V
R7634			NRSA63J-101X	MG RESISTOR,A,B,D,F	100Ω,1/16W	C7116			NCB31EK-103X	CAPACITOR,A,B,D,F	0.01μF,25V
R7635			NRSA63J-220X	MG RESISTOR,C,E	22Ω,1/16W	C7117			NCB31EK-103X	CAPACITOR,A,B,D,F	0.01μF,25V
R7636			NRSA63J-220X	MG RESISTOR,C,E	22Ω,1/16W	C7118			NBP41CM-106X	T CAPACITOR	10μF,16V
R7637			NRVA63D-123X	CMF RESISTOR,C,E	12kΩ,1/16W	C7119			NCF31CZ-104X	CAPACITOR,A,B,D,F	0.1μF,16V
R7638			NRVA63D-123X	CMF RESISTOR,C,E	12kΩ,1/16W	C7120			NBE20JM-106X	T CAPACITOR	10μF,6.3V
R7639			NRVA63D-123X	CMF RESISTOR,C,E	12kΩ,1/16W	C7121			NCF31CZ-104X	CAPACITOR,A,B,D,F	0.1μF,16V
R7640			NRVA63D-123X	CMF RESISTOR,C,E	12kΩ,1/16W	C7122			NCF31CZ-104X	CAPACITOR,A,B,D,F	0.1μF,16V
R7641			NRVA63D-123X	CMF RESISTOR,C,E	12kΩ,1/16W	C7123			NBE20JM-106X	T CAPACITOR	10μF,6.3V
R7642			NRVA63D-123X	CMF RESISTOR,C,E	12kΩ,1/16W	C7601			NCB31CK-104X	CAPACITOR	0.1μF,16V
R7643			NRSA63J-220X	MG RESISTOR,C,E	22Ω,1/16W	C7602			NBE40JM-476X	T CAPACITOR	47μF,6.3V
R7645			NRSA63J-473X	MG RESISTOR,C,E	47kΩ,1/16W	C7603			NBE20JM-106X	T CAPACITOR	10μF,6.3V
R7646			NRSA63J-103X	MG RESISTOR,C,E	10kΩ,1/16W	C7604			NCB31CK-104X	CAPACITOR	0.1μF,16V
R7649			NRVA63D-222X	CMF RESISTOR	2.2kΩ,1/16W	C7605			NCB31CK-104X	CAPACITOR	0.1μF,16V
R7650			NRVA63D-222X	CMF RESISTOR	2.2kΩ,1/16W	C7606			NCB11CK-225X	CAPACITOR	2.2μF,16V
R7651			NRVA63D-222X	CMF RESISTOR	2.2kΩ,1/16W	C7607			NCF31CZ-104X	CAPACITOR	0.1μF,16V
R7652			NRVA63D-222X	CMF RESISTOR	2.2kΩ,1/16W	C7608			NCB11CK-225X	CAPACITOR	2.2μF,16V
R7653			NRVA63D-222X	CMF RESISTOR	2.2kΩ,1/16W	C7609			NCB11CK-225X	CAPACITOR	2.2μF,16V
R7654			NRVA63D-222X	CMF RESISTOR	2.2kΩ,1/16W	C7610			NBP41CM-226X	T CAPACITOR	22μF,16V
R7657			NRSA63J-154X	MG RESISTOR	150kΩ,1/16W	C7614			NCF31CZ-104X	CAPACITOR	0.1μF,16V
R7659			NRSA63J-335X	MG RESISTOR	3.3MΩ,1/16W	C7615			NBE20JM-106X	T CAPACITOR	10μF,6.3V
R7660			NRSA63J-223X	MG RESISTOR	22kΩ,1/16W	C7618			NCB31HK-822X	CAPACITOR	0.0082μF,50V
R7661			NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W	C7619			NBE20JM-225X	T CAPACITOR	2.2μF,6.3V
R7663			NRSA63J-101X	MG RESISTOR	100Ω,1/16W	C7620			NBE20JM-106X	T CAPACITOR	10μF,6.3V
R7664			NRSA63J-223X	MG RESISTOR,A,B,C	22kΩ,1/16W	C7621			NDC31HJ-151X	CAPACITOR	150pF,50V
			NRSA63J-682X	MG RESISTOR,D,E,F	6.8kΩ,1/16W	C7623			NDC31HJ-471X	CAPACITOR	470pF,50V
R7665			NRSA63J-223X	MG RESISTOR	22kΩ,1/16W	C7625			NCB21AK-105X	CAPACITOR	1μF,10V
R7666			NRSA63J-223X	MG RESISTOR	22kΩ,1/16W	C7627			NCB31CK-104X	CAPACITOR	0.1μF,16V
R7667			NRSA63J-333X	MG RESISTOR	33kΩ,1/16W	C7628			NCB11CK-225X	CAPACITOR	2.2μF,16V
R7668			NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W	C7629			NBE20JM-106X	T CAPACITOR	10μF,6.3V
R7670			NRSA02J-681X	MG RESISTOR	680Ω,1/10W	C7630			NCB31CK-104X	CAPACITOR	0.1μF,16V
R7672			NRSA63J-0R0X	MG RESISTOR,A,B,D,F	0Ω,1/16W	C7631			NCF31AZ-105X	CAPACITOR	1μF,10V
R7673			NRSA63J-223X	MG RESISTOR,C,E	22kΩ,1/16W	C7632			NCF31AZ-105X	CAPACITOR	1μF,10V
R7674			NRSA63J-333X	MG RESISTOR,D,E,F	33kΩ,1/16W	C7636			NCB31HK-102X	CAPACITOR	0.001μF,50V
R7675			NRSA63J-103X	MG RESISTOR,A,B,C	10kΩ,1/16W	C7637			NCB31HK-102X	CAPACITOR	0.001μF,50V
R7677			NRSA63J-223X	MG RESISTOR,D,E,F	22kΩ,1/16W	C7638			NCF31CZ-104X	CAPACITOR	0.1μF,16V
R7678			NRSA63J-223X	MG RESISTOR,D,E,F	22kΩ,1/16W	C7639			NCF31CZ-104X	CAPACITOR,C,E	0.1μF,16V
R7679			NRSA63J-822X	MG RESISTOR,C,E	8.2kΩ,1/16W	C7640			NBE21AM-106X	T CAPACITOR	10μF,10V
R7681			NRSA63J-0R0X	MG RESISTOR,A,B,D,F	0Ω,1/16W	C7641			NBE21AM-106X	T CAPACITOR	10μF,10V
			NRSA63J-331X	MG RESISTOR,C,E	330Ω,1/16W	C7642			NBE21AM-106X	T CAPACITOR	10μF,10V
R7685			NRSA63J-392X	MG RESISTOR,C,E	3.9kΩ,1/16W	C7646			NBE21AM-335X	T CAPACITOR	3.3μF,10V
R7687			NRSA63J-183X	MG RESISTOR,C,E	18kΩ,1/16W	C7647			NBP21DM-335X	T CAPACITOR	3.3μF,20V
R7688			NRSA63J-334X	MG RESISTOR,C,E	330kΩ,1/16W	C7648			NCF31CZ-104X	CAPACITOR,C,E	0.1μF,16V
R7689			NRSA63J-224X	MG RESISTOR,C,E	220kΩ,1/16W	C7649			NCF31CZ-104X	CAPACITOR,C,E	0.1μF,16V
R7690			NRSA63J-393X	MG RESISTOR,C,E	39kΩ,1/16W	C7650			NBP41EM-475X	T CAPACITOR	4.7μF,25V
VR7101			NVP0016-223X	TRIM RESISTOR,GAIN,A,B,D,F		C7654			NBP41EM-475X	T CAPACITOR	4.7μF,25V
VR7102			NVP0016-223X	TRIM RESISTOR,BLACK LEVEL,A,B,D,F		C7655			NCB31CK-104X	CAPACITOR,D,E,F	0.1μF,16V
C1			NCB31EK-103X	CAPACITOR	0.01μF,25V	C7656			NCF31AZ-105X	CAPACITOR	1μF,10V
C7102			NDC31HJ-181X	CAPACITOR,A,B,D,F	180pF,50V	C7660			NCB31EK-103X	CAPACITOR,C,E	0.01μF,25V
C7103			NCF31CZ-104X	CAPACITOR,A,B,D,F	0.1μF,16V	C7661			NCB31EK-103X	CAPACITOR,C,E	0.01μF,25V
C7104			NCF31CZ-104X	CAPACITOR,A,B,D,F	0.1μF,16V	C7665			NCB21CK-105X	CAPACITOR,C,E	1μF,16V
C7105			NBE20JM-475X	T CAPACITOR	4.7μF,6.3V	C7666			NBE21AM-106X	T CAPACITOR,C,E	10μF,10V
C7106			NCB21HK-122X	CAPACITOR,A,B,D,F	0.0012μF,50V	C7667			NDC31HJ-180X	CAPACITOR	18pF,50V
C7107			NCB31EK-103X	CAPACITOR,A,B,D,F	0.01μF,25V	L7101			NQL315K-100X	COIL,A,B,D,F	10μH
C7108			NCF21CZ-105X	CAPACITOR,A,B,D,F	1μF,16V	L7102			NQL315K-100X	COIL,A,B,D,F	10μH
C7109			NCF31CZ-104X	CAPACITOR,A,B,D,F	0.1μF,16V	L7103			NQL315K-100X	COIL,A,B,D,F	10μH
C7110			NCF31CZ-104X	CAPACITOR,A,B,D,F	0.1μF,16V	L7603			NQL314K-220X	COIL	22μH
C7111			NCF31CZ-104X	CAPACITOR,A,B,D,F	0.1μF,16V	L7604			NQL315K-100X	COIL	10μH
C7112			NCF31CZ-104X	CAPACITOR,A,B,D,F	0.1μF,16V	L7605			NQL315K-100X	COIL	10μH
C7113			NCB31HK-102X	CAPACITOR,A,B,D,F	0.001μF,50V	L7608			NQL315K-100X	COIL,D,E,F	10μH
C7114			NCB31EK-103X	CAPACITOR,A,B,D,F	0.01μF,25V	L7610			NQL315K-100X	COIL	10μH

#	△ REF No.	PART No.	PART NAME, DESCRIPTION	
	L7611	NQL315K-100X	COIL,A,B,C	10μH
	SW1	NSW0092-001X	SLIDE SWITCH	
	SW2	NSW0008-001X	TACT SWITCH	
	SW3	NSW0008-001X	TACT SWITCH	
	SW4	NSW0008-001X	TACT SWITCH	
	SW5	NSW0008-001X	TACT SWITCH	
	SW7601	NSW0105-001X	DETECT SWITCH	
	CN7601	QGF0506F2-32X	FPC CONNECTOR	
	CN7602	QGF0503C1-20X	FFC/FPC CONNECTOR,A,B,D,F	
	CN7603	QGF0503C1-20X	FFC/FPC CONNECTOR,C,E	
	CN7604	QGF0305F1-33X	FPC CONNECTOR	
	CN7605	QGA1201F2-02X	CONNECTOR	
	OT1	LY30029-051A	SPACER(A)	

#	△ REF No.	PART No.	PART NAME, DESCRIPTION	
	T7501	NQS0037-001X	SW TRANSF	
	CN7501	QGF0506F2-32X	FPC CONNECTOR	
	CN7502	QGF0505F1-24X	FPC CONNECTOR	
	CN7503	QGA5002F1-02X	CONNECTOR	
	CN7504	QGF0505F2-06X	FPC CONNECTOR,D,E,F	
△	F751	NMFZ006-R20X-K	FUSE,D,E,F	0.2A
	OT1	LY41726-001A	PLATE(EARTH)	

CCD BOARD ASSEMBLY <04>

PW	YB20876A-01	CCD BOARD ASSY	
Q5001	2SC3931/CD/-X	TRANSISTOR	
R5001	NRSA02J-472X	MG RESISTOR	4.7kΩ, 1/10W
R5002	NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
R5003	NRSA02J-104X	MG RESISTOR	100kΩ, 1/10W
R5004	NRS181J-0R0X	MG RESISTOR	0Ω, 1/8W
C5001	NCB21CK-104X	CAPACITOR	0.1μF, 16V
C5002	NBP41DM-106X	T CAPACITOR	10μF, 20V
C5003	NCB21CK-104X	CAPACITOR	0.1μF, 16V
C5004	NBE21AM-106X	T CAPACITOR	10μF, 10V
C5005	NCB11EK-104X	CAPACITOR	0.1μF, 25V
C5006	NCB21CK-104X	CAPACITOR	0.1μF, 16V
C5007	NCB21HK-222X	CAPACITOR	0.0022μF, 50V
C5011	NCB21CK-105X	CAPACITOR	1μF, 16V
L5001	NQL315K-100X	COIL	10μH
OT1	LY30016-0U4B	SPACER-A	
OT2	LY30016-0U4B	SPACER-A	
L1	QQR0895-013	FERRITE CORE	

JUNCTION BOARD ASSEMBLY <05>

PW2	YB10278A2-01	JUNCTION BOARD ASSY	
R517	NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
SW571	NSW0095-001X	DETECT SWITCH	
CN571	QGF0506F3-33X	FFC/FPC CONNECTOR	
CN572	QGF0507F1-15X	FPC CONNECTOR	
CN573	QGF0505F2-11X	FPC CONNECTOR	
CN574	QGF0505F2-06X	FPC CONNECTOR	

JACK BOARD ASSEMBLY <06>

PW1	YB10278A1-01	JACK BOARD ASSY	
IC501	BA10358F-XE	IC	
IC502	PIC-26043T2	IR DETECT UNIT	
Q501	DTC143XE	TRANSISTOR	
Q502	RPM-22PB	PHOTO TRANSISTOR	
D501	TLSU1002/LM/-X	LE DIODE	
D502	MA8068	ZENER DIODE	
D504	MA8068	ZENER DIODE	
D505	MA8068	ZENER DIODE	

LCD BL BOARD ASSEMBLY <03>

PW2	YB10280A2-01	LCD BL BOARD ASSY,D,E	
	YB10280B2-01	LCD BL BOARD ASSY,F	
	YB10280C2-01	LCD BL BOARD ASSY,A,B,C	
IC751	MIP805	IC,D,E,F	
Q7501	2SC3647/ST/-X	POW TRANSISTOR	
Q7502	2SC3647/ST/-X	POW TRANSISTOR	
Q7503	DTA144EE	TRANSISTOR	
Q7504	2SC4617/QR/-X	TRANSISTOR	
Q7505	2SC4617/QR/-X	TRANSISTOR	
Q7506	2SC4617/QR/-X	TRANSISTOR	
D751	1SS376	DIODE,D,E,F	
R751	NRSA63J-104X	MG RESISTOR,D,E,F	100kΩ, 1/16W
R7501	NRSA63J-102X	MG RESISTOR	1kΩ, 1/16W
R7502	NRSA63J-102X	MG RESISTOR	1kΩ, 1/16W
R7503	NRSA63J-102X	MG RESISTOR	1kΩ, 1/16W
R7504	NRSA63J-563X	MG RESISTOR	56kΩ, 1/16W
R7505	NRSA63J-223X	MG RESISTOR	22kΩ, 1/16W
R7506	NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W
R7507	NRSA63J-473X	MG RESISTOR	47kΩ, 1/16W
R7508	NRSA63J-223X	MG RESISTOR	22kΩ, 1/16W
R7509	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R7510	NRSA63J-563X	MG RESISTOR	56kΩ, 1/16W
C751	NBE20JM-106X	T CAPACITOR,D,E,F	10μF, 6.3V
C752	NBE20JM-106X	T CAPACITOR,D,E,F	10μF, 6.3V
C753	NCB31HK-222X	CAPACITOR,D,E,F	0.0022μF, 50V
C754	NCB31HK-222X	CAPACITOR,D,E,F	0.0022μF, 50V
C7501	NCZ1016-150X	CAPACITOR,A,B,C,D,E	15pF
	NCZ1016-180X	CAPACITOR,F	18pF
C7502	NCZ1016-150X	CAPACITOR,A,B,C	15pF
	NCZ1016-180X	CAPACITOR,D,E,F	18pF
C7503	NFV41HJ-273X	MPPS CAPACITOR	0.027μF, 50V
C7504	NCB31EK-103X	CAPACITOR	0.01μF, 25V
C7505	NBE40JM-226X	T CAPACITOR	22μF, 6.3V
C7506	NCB31EK-103X	CAPACITOR	0.01μF, 25V
C7507	NDC31HJ-151X	CAPACITOR	150pF, 50V
C7508	NCB11CK-105X	CAPACITOR	1μF, 16V
C7509	NCB31CK-104X	CAPACITOR	0.1μF, 16V
C7510	NCB31HK-562X	CAPACITOR	0.0056μF, 50V
L751	NQLZ011-681X	COIL,D,E,F	680μH
L752	NQL315K-100X	COIL,D,E,F	10μH
L7501	NQLZ010-680X	COIL	68μH
L7502	NQLZ010-220X	COIL	22μH

# ▲ REF No.	PART No.	PART NAME, DESCRIPTION	
R501	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R502	NRSA63J-684X	MG RESISTOR	680kΩ,1/16W
R503	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
R504	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R505	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R506	NRSA63J-824X	MG RESISTOR	820kΩ,1/16W
R507	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
R508	NRSA63J-683X	MG RESISTOR	68kΩ,1/16W
R509	NRSA63J-822X	MG RESISTOR	8.2kΩ,1/16W
R510	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R511	NRSA63J-302X	MG RESISTOR	3kΩ,1/16W
R512	NRSA63J-391X	MG RESISTOR	390Ω,1/16W
R513	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
R515	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R516	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R518	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R519	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R520	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R521	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
C501	NBE21AM-335X	T CAPACITOR	3.3μF,10V
C502	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C503	NCB31EK-153X	CAPACITOR	0.015μF,25V
C504	NCB31EK-153X	CAPACITOR	0.015μF,25V
C506	NBE21AM-106X	T CAPACITOR	10μF,10V
C508	NBE20JM-226X	T CAPACITOR	22μF,6.3V
C511	NCB31HK-103X	CAPACITOR	0.01μF,50V
C512	NCB31HK-103X	CAPACITOR	0.01μF,50V
L501	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
L502	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
L503	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
J501	QNS0078-001	3.5 JACK	
J502	NNZ0028-001	D CONNECTOR	
J503	PEMC1032	MINI DIN CONNCTOR	
CN501	QGF0507F1-22X	FPC CONNECTOR	

REAR BOARD ASSEMBLY <07>

PW3	YB10278A3-01	REAR BOARD ASSY,B,E,F	
	YB10278B3-01	REAR BOARD ASSY,A,C,D	
D551	MA8068	ZENER DIODE,B,E,F	
D552	MA8068	ZENER DIODE,B,E,F	
D553	MA8068	ZENER DIODE,B,E,F	
D554	MA8068	ZENER DIODE,B,E,F	
D555	MA8068	ZENER DIODE	
D556	MA8068	ZENER DIODE	
D557	MA8068	ZENER DIODE	
R551	NRSA63J-0R0X	MG RESISTOR,B,E,F	0Ω,1/16W
R552	NRSA63J-0R0X	MG RESISTOR,B,E,F	0Ω,1/16W
R553	NQR0129-002X	FERRITE BEAD	
R554	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
R555	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R556	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
J551	LY31577-001A	BATT.TERM.UNIT	
J552	QNS0152-001	2.5 JACK,B,E,F	
J553	PEMC1203	MINI JACK	
▲ J554	QAB0028-001	LI BATTERY	
CN551	QGA1201C1-11	CONNECTOR	

# ▲ REF No.	PART No.	PART NAME, DESCRIPTION	

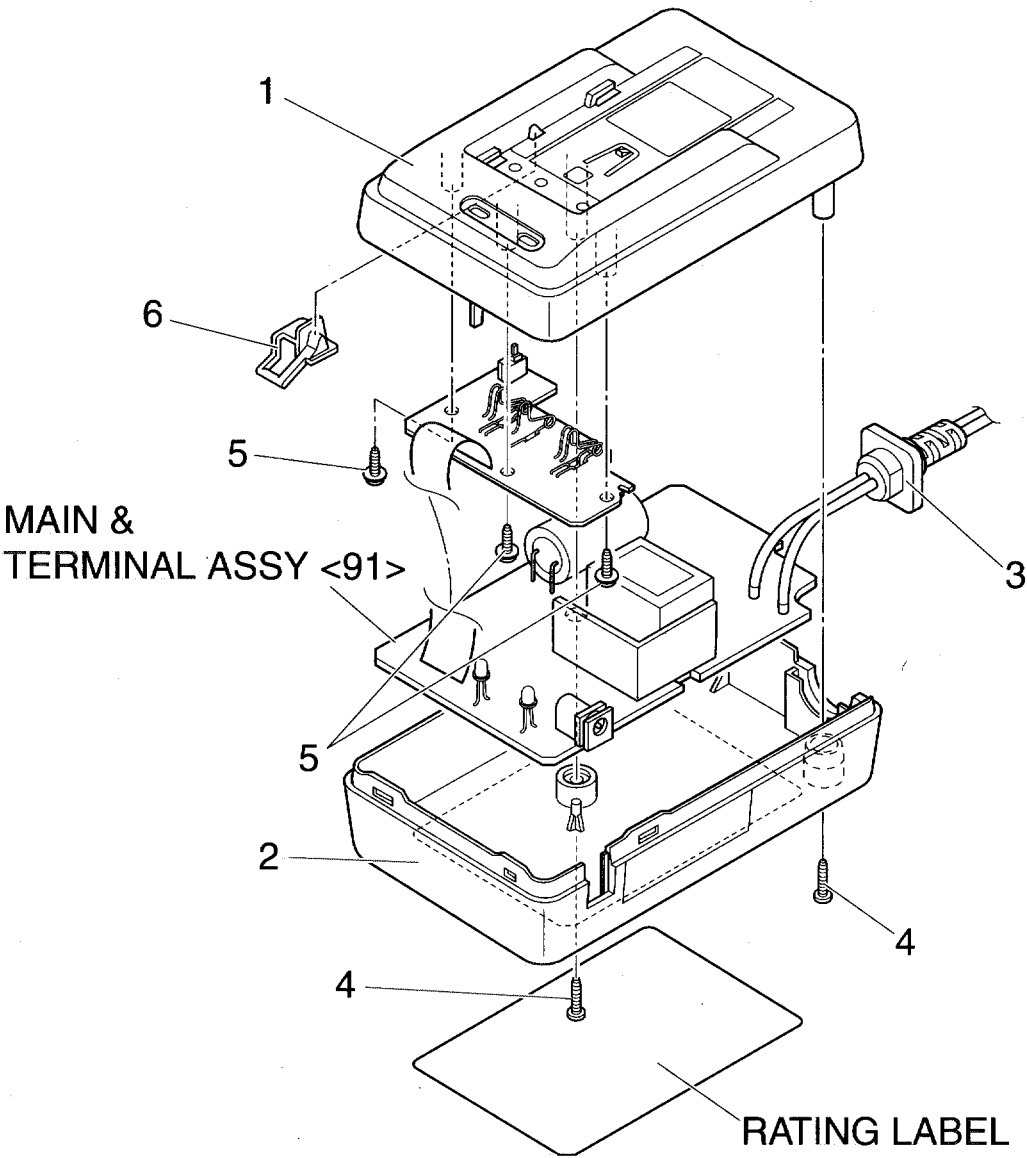
B/W VF BOARD ASSEMBLY(100U/300U/307U/507U) <08>			
PW3	YB10280A3-01	B/W VF BOARD ASSY	
Q7201	2SD2216J/QR/-X	TRANSISTOR	
D7201	MA111	DIODE	
R7201	NRVA63D-153X	CMF RESISTOR	15kΩ,1/16W
R7202	NRVA63D-103X	CMF RESISTOR	10kΩ,1/16W
R7203	NRVA63D-680X	CMF RESISTOR	68Ω,1/16W
R7204	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
C7201	NCB31EK-103X	CAPACITOR	0.01μF,25V
CN7201	QGF0503C1-20X	FFC/FPC CONNECTOR	
CN7202	QGF0503C1-20X	FFC/FPC CONNECTOR	
CN7203	QGA1201C2-02X	CONNECTOR	

SECTION 6
AC POWER ADAPTER (AA-V40U)

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

6.1 CABINET ASSEMBLY <MA>



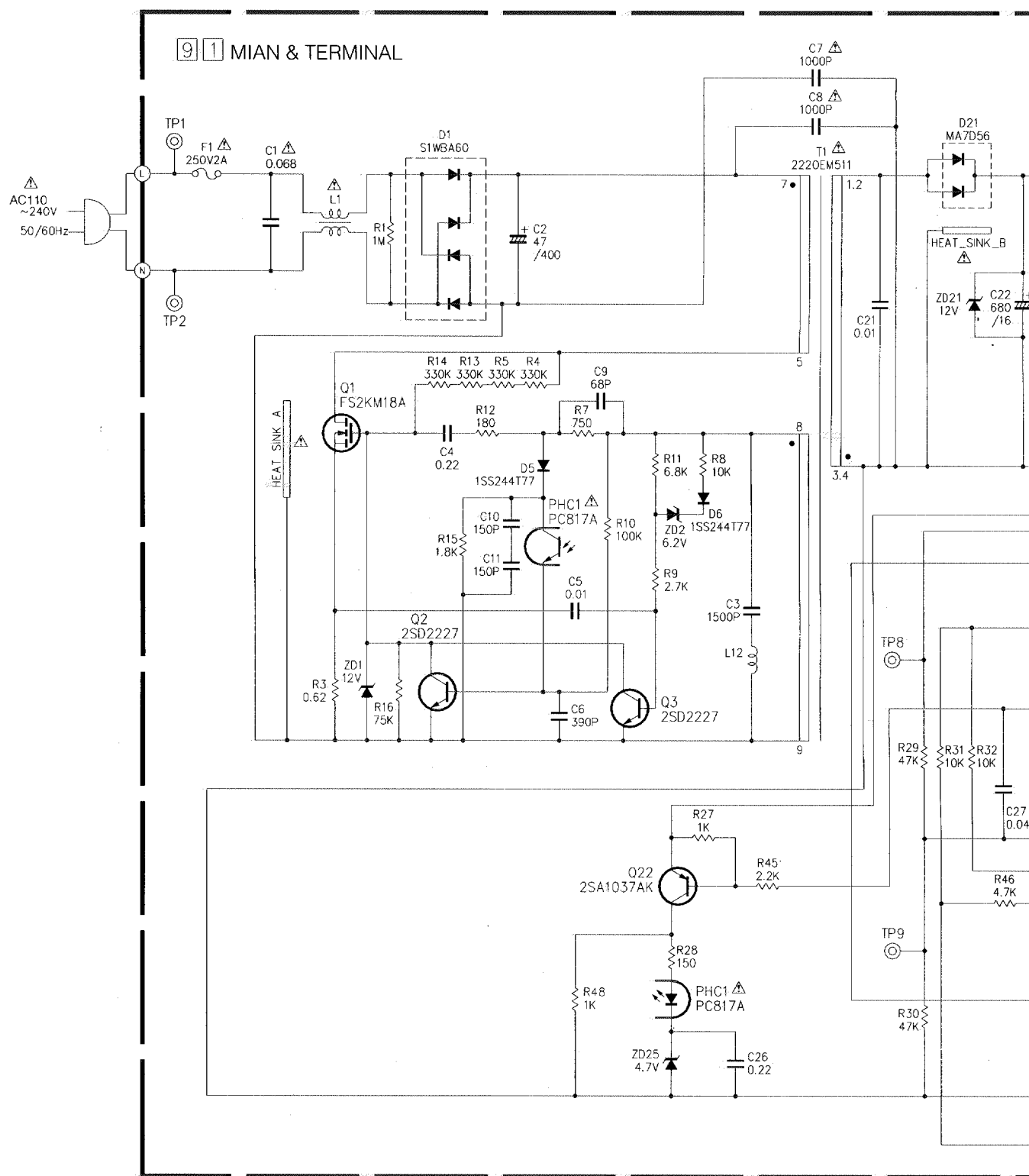
#	⚠ REF No.	PART No.	PART NAME, DESCRIPTION

CABINET ASSEMBLY <MA>

⚠ 1	PTY20591-012	UPPER CASE ASSY
⚠ 2	PTY20483-021	LOWER CASE
⚠ 3	PTY20290-040	POWER CORD
4	YQ10531-011	SCREW,x2
5	PTY20545-055	SCREW,x3
6	PTY20591-053	SWITCH COVER

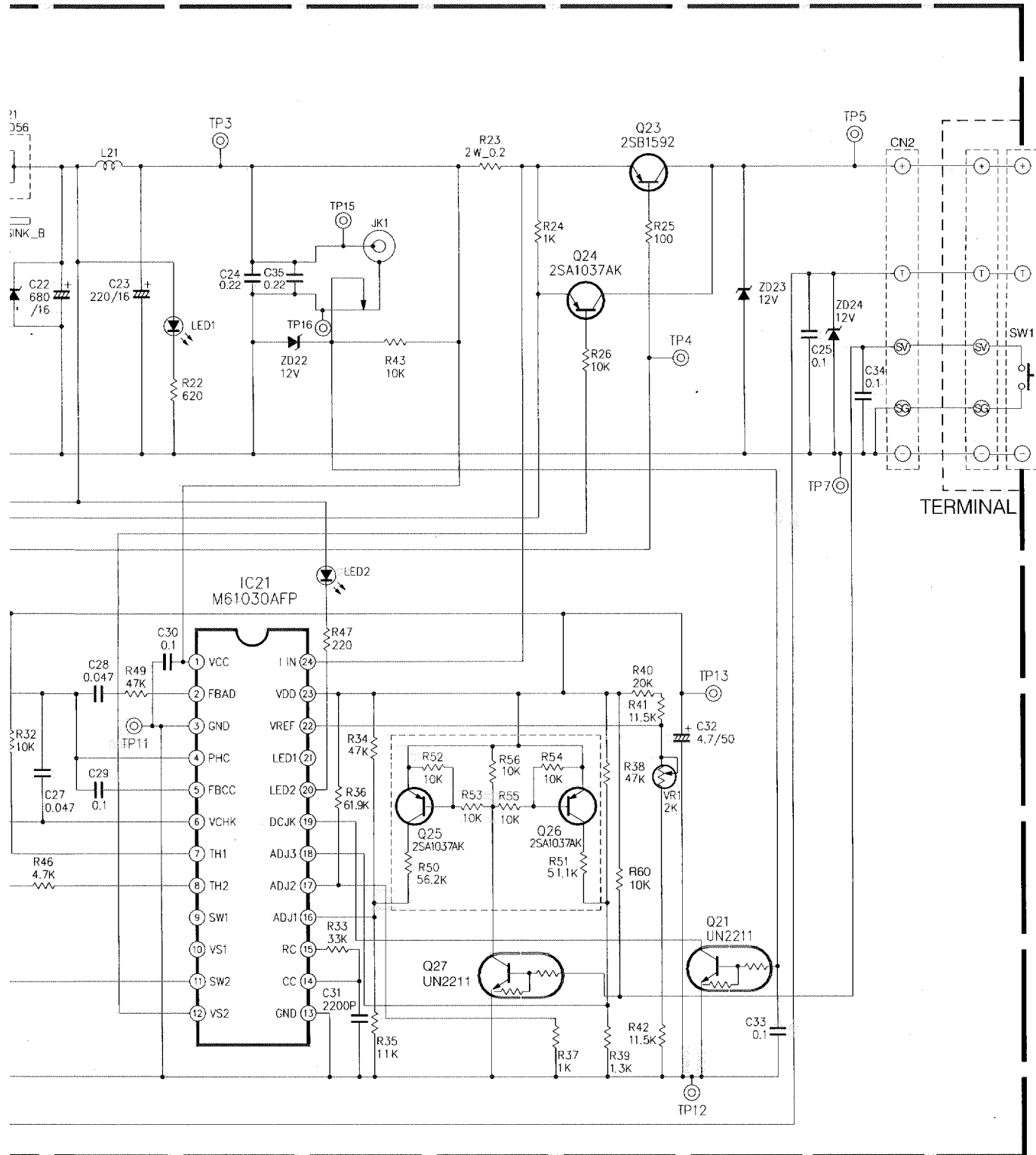
6.2 SCHEMATIC DIAGRAM

NOTE: When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

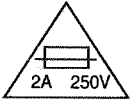


Safety precautions

The components identified by the symbol Δ are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

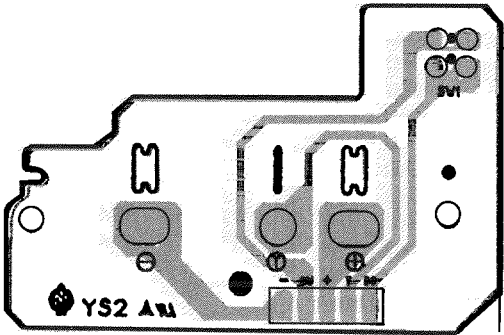
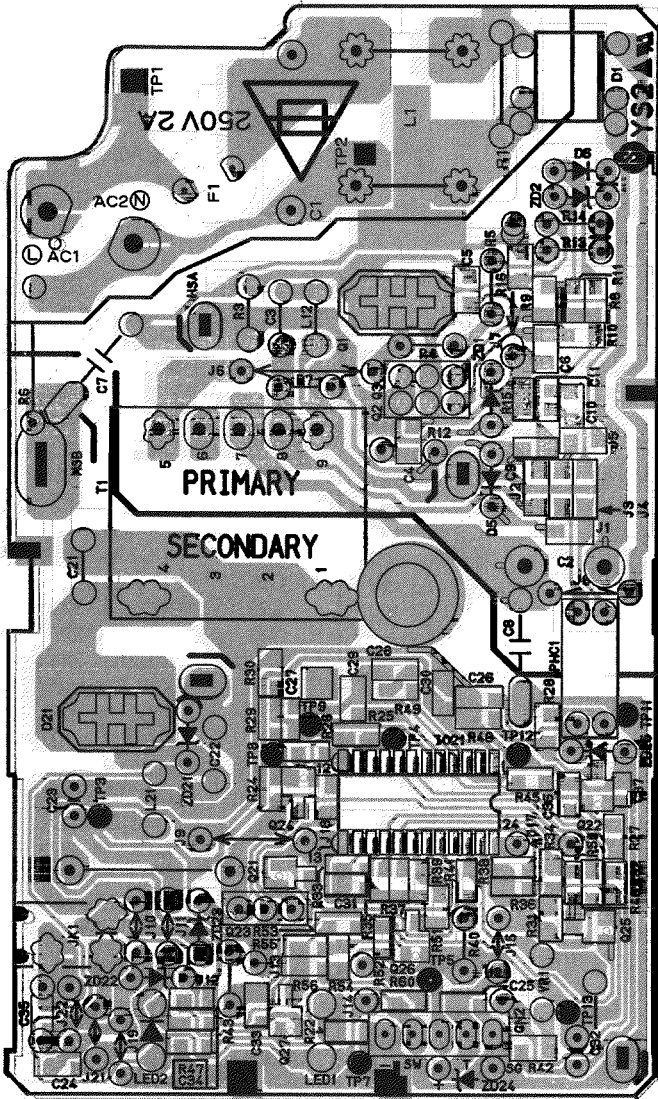


6.3 CIRCUIT BOARD



CAUTION:
FOR CONTINUED PROTECTION AGAINST
FIRE HAZARD, REPLACE ONLY WITH SAME
TYPE AND RATED FUSE.

ATTENTION:
POUR UNE PROTECTION PERMANENTE
CONTRE LES RISQUE D'INCENDE,
REPLACER LE FUSIBLE PAR UN AUTRE
DE MEME TYPE ET DE MEME TENSION.



6.4 ELECTRICAL PARTS LIST

#! REF No. PART No. PART NAME, DESCRIPTION

MAIN & TERMINAL BOARD ASSY <91>

! PW1	PTY20591-502	MAIN & TERMINAL BOARD ASSY	
! HS1	PTY20483-071	HEAT SINK A	
! HS2	PTY20591-072	HEAT SINK B	
IC21	M61030AFP	CHARGE COTROL IC 24pin SOP	
Q1	FS2KM18A	MOS FET	
Q2	2SD2227	TRANSISTER	
Q3	2SD2227	TRANSISTER	
Q21	UN2211TX	DIG TRANSISTER	
Q22	2SA1037AK/QR/-X	CHIP TRANSISTER	
Q23	2SB1592	TRANSISTER	
Q24	2SA1037AK/QR/-X	TRANSISTER	
Q25	2SA1037AK/QR/-X	TRANSISTER	
Q26	2SA1037AK/QR/-X	TRANSISTER	
Q27	UN2211TX	DIG TRANSISTOR	
D1	S1WBA60	B.DIODE	600V 1A
D5	1SS244T77	DIODE	200V 6A
D6	1SS244T77	DIODE	200V 6A
D21	MA7D56	DIODE	60V 10A
ZD1	MTZJ12C-T2	ZENER DIODE	12V
ZD2	MTZJ6.2B-T2	ZENER DIODE	6.2V 500mW
ZD21	MTZJ12C-T2	ZENER DIODE	12V
ZD22	MTZJ12C-T2	ZENER DIODE	12V
ZD23	MTZJ12C-T2	ZENER DIODE	12V
ZD24	MTZJ12C-T2	ZENER DIODE	12V
ZD25	MA4047NM	ZENER DIODE	4.7V 500mW
LED1	YQ10531-540	LED RED POWER	
LED2	YQ10531-542	LED GREEN CHARGE	
R1	QRN141J-105	RESISTOR	1MΩ 1/4W
R3	PTY10067-601	MF RESISTOR	0.62Ω 1W
R4	QRE141J-334Y	RESISTOR	330kΩ 1/4W
R5	QRE141J-334Y	RESISTOR	330kΩ 1/4W
R7	QRE141J-751Y	RESISTOR	750Ω 1/4W
R8	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W
R9	NRSA02J-272X	MG RESISTOR	2.7kΩ 1/10W
R10	NRSA02J-104X	MG RESISTOR	100kΩ 1/10W
R11	NRSA02J-682X	MG RESISTOR	6.8kΩ 1/10W
R12	QRE141J-181Y	RESISTOR	180Ω 1/4W
R13	QRE141J-334Y	RESISTOR	330kΩ 1/4W
R14	QRE141J-334Y	RESISTOR	330kΩ 1/4W
R15	NRSA02J-182X	MG RESISTOR	1.8kΩ 1/10W
R16	NRSA02J-753X	MG RESISTOR	75kΩ 1/10W
R22	NRSA02J-621X	MG RESISTOR	620Ω 1/10W
R23	PTY20539-605	MF RESISTOR	0.20Ω 2W
R24	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W
R25	NRSA02J-101X	MG RESISTOR	100Ω 1/10W
R26	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W
R27	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W
R28	NRSA02J-151X	MG RESISTOR	150Ω 1/10W
R29	PTY20539-601	MG RESISTOR	47.0kΩ 1/10W
R30	PTY20539-601	MG RESISTOR	47.0kΩ 1/10W
R31	NRSA02F-103X	MG RESISTOR	10.0kΩ 1/10W
R32	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W
R33	NRSA02J-333X	MG RESISTOR	33kΩ 1/10W
R34	PTY20539-601	MG RESISTOR	47.0kΩ 1/10W
R35	PTY20539-602	MG RESISTOR	11.0kΩ 1/10W
R36	NRSA02F-6192X	MG RESISTOR	61.9kΩ 1/10W
R37	PTY20539-603	MG RESISTOR	1.0kΩ 1/10W
R38	PTY20539-601	MG RESISTOR	47.0kΩ 1/10W
R39	PTY20539-604	MG RESISTOR	1.3kΩ 1/10W
R40	PTY20450-200	MG RESISTOR	20.0kΩ 1/4W

#! REF No.	PART No.	PART NAME, DESCRIPTION	
R41	NRSA02F-1152X	MG RESISTOR	11.5kΩ 1/10W
R42	NRSA02F-1152X	MG RESISTOR	11.5kΩ 1/10W
R43	QRE141J-103Y	MF RESISTOR	10kΩ 1/4W
R45	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W
R46	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W
R47	NRSA02J-221X	MG RESISTOR	220Ω 1/10W
R48	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W
R49	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W
R50	NRSA02F-5622X	MG RESISTOR	56.2kΩ 1/10W
R51	NRSA02F-5112X	MG RESISTOR	51.1kΩ 1/10W
R52	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W
R53	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W
R54	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W
R55	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W
R56	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W
R60	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W
! C1	PTY20292-303	CAPACITOR	0.068μ F 275V
C2	YQ10626-402	E CAPACITOR	47μ F 400V
C3	PTY10067-651	CAPACITOR	1500pF 250V
C4	NCB21CK-224X	CAPACITOR	0.22μ F 16V
C5	PTY10067-653	CAPACITOR	0.01μ F 50V
C6	NCB21HK-391X	CAPACITOR	390pF 50V
! C7	PTY20292-368	CAPACITOR	1000pF 250V
! C8	PTY20292-368	CAPACITOR	1000pF 250V
C9	NDC21HJ-680X	CAPACITOR	68pF 50V
C10	NDC21HJ-151X	CAPACITOR	150pF 50V
C11	NDC21HJ-151X	CAPACITOR	150pF 50V
C21	PTY10067-657	CAPACITOR	0.01μ F 250V
C22	PTY20292-321	E CAPACITOR	680μ F 16V
C23	QETL1CM-227	E CAPACITOR	220μ F 16V
C24	NCB21CK-224X	CAPACITOR	0.22μ F 16V
C25	NCF21EZ-104X	CAPACITOR	0.1μ F 25V
C26	NCB21CK-224X	CAPACITOR	0.22μ F 16V
C27	NCB21EK-473X	CAPACITOR	0.047μ F 25V
C28	NCB21HK-473X	CAPACITOR	0.047μ F 50V
C29	NCB21EK-104X	CAPACITOR	0.1μ F 25V
C30	NCF21EZ-104X	CAPACITOR	0.1μ F 25V
C31	NCB21HK-222X	CAPACITOR	0.0022μ F 50V
C32	QEHA1HM-475	E CAPACITOR	4.7μ F 50V
C33	NCF21EZ-104X	CAPACITOR	0.1μ F 25V
C34	NCF21EZ-104X	CAPACITOR	0.1μ F 25V
C35	QFLA1HJ-224	F CAPACITOR	0.22μ F 50V
! T1	PTY20538-801	SW TRANS	
VR1	PTY20483-101	VOLUME	2kΩ
! F1	PTY20450-040	FUSE	2A 250V
JK1	YQ21032-301	DC JACK	
! L1	PTY10067-701	LINE FILTER	
L12	PTY10067-702	BEAD INDUCTOR	
L21	PTY10067-703	COIL	
! PHC1	PC817A	PHOTOCOUPLER	
	or PC817X1	PHOTOCOUPLER	
SW1	PTY20545-662	SWITCH	
WR1	PTY20591-052	FLAT CABLE (5P)	
TB1	PTY20545-051	TERMINAL,x5 (CN2)	
OT1	PTY10067-551	SCREW	
OT2	PTY20591-054	INSULATION TUBE1	
OT3	PTY20591-055	INSULATION TUBE2	

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